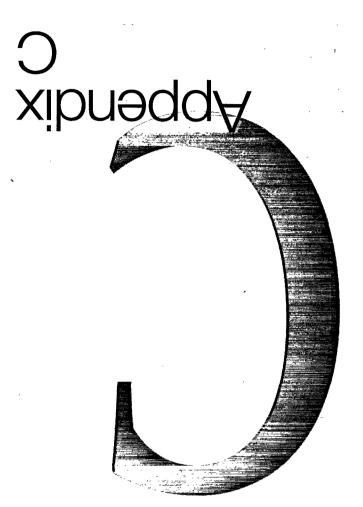
SFUND RECORDS CTR 29634

Report

Baldwin Park Operable Unit Pre-Remedial Design Groundwater Monitoring Program

Draft Pre-Remedial Design Report *Appendices C, D and E*

December 1996



Appendix C Field Parameter Data Sheets

Baldwin Park Operable Unit Field Parameters Measured During Sampling EPA MW5-01

	Screened		Electrical			. 1
Well ID	Interval	Sampling	Conductivity	pH (SU)	Turbidity	Temperature
	(feet bgs)	Date	(μmhos/cm)		(NTU)	(°C)
EPA MW5-01 (Zone 1)	1495-1505	03/11/96	381	7.49	3.58	19.2
		06/19/96	390	7.12	10.70	27.1
		09/18/96	380	8.27	4.15	21.5
EPA MW5-01 (Zone 2)	1387-1397	03/11/96	398	7.76	10.20	19.1
		06/19/96	410	7.33	8.50	28.3
		09/18/96	410	8.29	3.62	21.5
EPA MW5-01 (Zone 3)	1256-1266	03/12/96	410	8.45	3.42	17.1
		06/19/96	430	7.78	3.30	28.1
		09/18/96	399	8.32	2.39	21.5
EPA MW5-01 (Zone 4)	1123-1133	03/12/96	300	8.29	1.97	17.5
		06/19/96	350	7.65	2.34	27.5
		09/18/96	340	8.88	1.99	21.0
EPA MW5-01 (Zone 5)	1030-1040	03/12/96	322	8.61	2.11	16.7
		06/20/96	390	8.11	2.50	26.5
		09/18/96	365	8.39	2.43	23.0
EPA MW5-01 (Zone 6)	875-885	03/12/96	319	8.59	2.13	15.7
		06/20/96	410	7.77	3.15	26.9
		09/18/96	412	7.94	2.49	22.5
EPA MW5-01 (Zone 7)	765-775	03/13/96	342	8.60	0.78	17.0
		06/20/96	400	7.53	4.43	27.0
		09/18/96	375	8.49	3.32	22.5
EPA MW5-01 (Zone 8)	640-650	03/13/96	460	8.17	0.88	17.9
		06/20/96	410	7.15	2.00	27.1
		09/19/96	455	7.49	1.74	22.1
EPA MW5-01 (Zone 9)	523-533	03/13/96	520	7.85	5.60	17.8
,		06/20/96	600	7.10	2.13	26.7
		09/19/96	620	7.73	1.55	22.2
EPA MW5-01 (Zone 10)	430-440	03/13/96	560	7.96	1.13	17.9
		06/20/96	310	7.13	2.14	26.8
		09/19/96	623	7.57	1.61	22.1
EPA MW5-01 (Zone 11)	335-345	03/13/96	710	8.14	1.59	17.8
		06/20/96	720	7.41	1.85	26.8
		09/19/96	630	7.93	1.93	23.0
EPA MW5-01 (Zone 12)	287-297	03/13/96	493	8.21	1.03	17.7
		06/20/96	640	7.43	2.90	26.3
		09/19/96	590	7.94	1.66	22.5
EPA MW5-01 (Zone 13)	216-226	03/13/96	369	8.74	0.83	16.9
		06/20/96	401	8.07	4.06	26.6
		09/19/96	431		1.60	23.7

Notes:

μmhos/cm = micromhos per centimeter

SU = standard unit

NTU = nephelometric turbidity unit

bgs = below ground surface

MSL = mean sea level

Ground surface elevation = 474.41 feet above MSL

Top of multiport casing = 473.83 feet above MSL

-- = Measurement not recorded

Baldwin Park Operable Unit Field Parameters Measured During Sampling MW5-03

Well ID	Screened Interval	Sampling	Electrical Conductivity	pH (SU)	Turbidity	Temperature
	(feet bgs)	Date	(µmhos/cm)		(NTU)	(°C)
MW5-03 (Zone 1)	1150-1160	08/04/95	1,130	6.85	130	23.1
		09/25/95	900	7.69	5.20	21.5
		03/18/96	730	7.82	1.74	17.5
		06/17/96	610	7.81	3.35	25.1
		09/16/96	600	8.60	3.36	20.0
MW5-03 (Zone 2)	1015-1025	08/04/95	1,110	7.11	153	22.8
1		09/25/95	910	8.01	4.14	21.0
		03/18/96	750	8.27	2.29	18.8
		06/17/96	710	8.17	4.53	26.7
	_	09/16/96	600	9.38	2.26	20.5
MW5-03 (Zone 3)	920-930	08/04/95	1,190	6.99	141	24.9
		09/26/95	700	8.30	16.5	21.0
		03/18/96	485	9.99	4.42	18.0
		06/17/96	510	8.65	4.15	28.1
		09/16/96	475	9.17	2.10	20.8
MW5-03 (Zone 4)	810-820	08/04/95	1,180	7.02	198	23.9
		09/26/95	920	7.58	22.2	20.9
		03/18/96	801	8.19	3.05	18.8
		06/18/96	773	7.55	2.28	24.5
		09/16/96	650	8.75	1.85	21.0
MW5-03 (Zone 5)	670-680	08/04/95	1,120	7.15	60.1	24.0
		09/26/95	810	7.87	9.20	22.1
		03/18/96	488	8.88	1.50	17.7
		06/18/96	500	7.98	2.42	24.5
	<u> </u>	09/17/96	475	9.53	1.67	20.0
MW5-03 (Zone 6)	590-600	08/04/95	1,090	6.79	77.2	25.3
		09/26/95	390	7.99	6.62	22.2
		03/19/96	400	7.49	1.15	16.4
		06/18/96	300	8.87	1.97	26.2
		09/17/96	400	8.26	1.14	21.0
MW5-03 (Zone 7)	510-520	08/04/95	1,010	6.86	62.6	23.5
		09/26/95	480	7.54	3.14	22.0
		03/19/96	375	8.14	0.96	17.2
		06/18/96	390	7.99	2.86	28.2
	<u></u>	09/17/96	300	9.35	1.94	21.0
MW5-03 (Zone 8)	400-410	08/04/95	980	6.80	39.0	23.8
		09/26/95	580	7.75	6.31	21.0
		03/19/96	580	8.02	1.47	17.7
		06/18/96	510	7.68	1.96	27.9
		09/17/96	600	7.80	2.91	22.0

Baldwin Park Operable Unit

Field Parameters Measured During Sampling

MW5-03

			10 00			
Well ID	Screened Interval (feet bgs)	Sampling Date	Electrical Conductivity (µmhos/cm)	pH (SU)	Turbidity (NTU)	Temperature (°C)
MW5-03 (Zone 9)	300-310	08/04/95	910	6.77	8.40	23.2
		09/27/95	870	7.12	0.73	19.8
		03/19/96	1,520	7.31	0.93	18.5
		06/18/96	1,410	6.99	1.75	26.1
		09/17/96	302	7.08	1.83	24.0
MW5-03 (Zone 10)	235-245	08/04/95	1,260	6.76	7.60	22.7
		09/27/95	1,180	7.34	3.30	20.9
		03/19/96	1,200	7.28	1.30	18.6
		06/18/96	1,300	6.82	2.43	26.0
		09/17/96	475	9.53	1.67	20.0

Notes:

 μ mhos/cm = micromhos per centimeter

SU = standard unit

NTU = nephelometric turbidity unit

bgs = below ground surface

MSL = mean sea level

Ground surface elevation = 474.41 feet above MSL

Top of multiport casing = 473.83 feet above MSL

Baldwin Park Operable Unit Field Parameters Measured During Sampling MW5-05

Well ID	Screened Interval (feet bgs)	Sampling Date	Electrical Conductivity (µmhos/cm)	pH (SU)	Turbidity (NTU)	Temperature (°C)
MW5-05 (Zone 1)	552-562	08/16/95	510	8.21	14.40	22.0
		10/12/95	391	7.51	1.46	20.2
		10/30/95	350	7.77	1.67	20.9
		03/20/96	355	7.91	1.31	17.5
		06/21/96	370	6.74	0.25	16.4
		09/23/96	380	8.23	4.60	20.0
MW5-05 (Zone 2)	464-474	08/16/95	510	8.73	4.74	24.9
		10/12/95	287	8.68	2.30	20.2
		10/30/95	300	8.54	0.80	19.5
		03/20/96	265	8.75	1.98	17.0
		06/21/96	290	7.20	0.72	17.0
		09/23/96	328	8.69	1.91	20.0
MW5-05 (Zone 3)	380-390	08/16/95	451	7.99	6.30	26.0
		10/12/95	369	7.72	2.07	20.8
		10/30/95	300	7.86	1.48	19.9
		03/20/96	398	7.73	1.10	16.6
		06/21/96	379	7.34	0.84	17.3
		09/23/96	392	8.24	1.96	20.0
MW5-05 (Zone 4)	218-228	08/16/95	590	8.00	4.05	26.8
		10/12/95	500	7.51	1.74	19.8
		10/30/95	300	7.99	0.51	18.2
		03/20/96	399	7.85	1.00	16.2
		06/21/96	580	7.24	2.48	18.0
		09/23/96	560	8.18	1.92	19.5

Notes:

 μ mhos/cm = micromhos per centimeter

SU = standard unit

NTU = nephelometric turbidity unit

bgs = below ground surface

MSL = mean sea level

Ground surface elevation = 342.52 feet above MSL

Top of multiport casing = 342.18 feet above MSL

Baldwin Park Operable Unit Field Parameters Measured at Sampling MW5-08

Well ID	Screened Interval (feet bgs)	Sampling Date	Electrical Conductivity (µmhos/cm)	pH (SU)	Turbidity (NTU)	Temperature (°C)
MW5-08 (Zone 1)	795-805	08/13/96	400	8.04	138 [@]	25.0
		09/24/96	400	8.18	8.12	23.5
MW5-08 (Zone 2)	670-680	08/13/96	350	8.25	6.80	26.5
		09/24/96	328	8.50	4.53	22.0
MW5-08 (Zone 3)	554-564	08/13/96	350	8.00	1.66	25.0
		09/24/96	368	8.13	5.05	21.0
MW5-08 (Zone 4)	380-390	08/13/96	349	7.86	2.35	25.0
		09/24/96	350	8.10	5.15	21.0

Notes:

µmhos/cm = micromhos per centimeter

SU = standard unit

NTU = nephelometric turbidity unit

bgs = below ground surface

MSL = mean sea level

Ground surface elevation = 339.20 feet above MSL

Top of MP casing elevation = 338.48 feet above MSL

^{-- =} Not measured

[®] Turbidity measured at time of sampling (i.e.,second sample withdrawn from zone 1) was 15.9 NTUs

Baldwin Park Operable Unit Field Parameters Measured During Sampling MW5-11

Well ID	Screened Interval (feet bgs)	Sampling Date	Electrical Conductivity (µmhos/cm)	pH (SU)	Turbidity (NTU)	Temperature (°C)
MW5-11 (Zone 1)	690-700	10/10/95	480	7.30	35.6	20.5
		11/13/95	465	7.42	12.5	21.0
		03/14/96	315	7.41	1.08	16.0
		06/24/96	300	7.68	1.44	22.9
		09/20/96	310	8.72	6.15	24.0
MW5-11 (Zone 2)	530-540	10/10/95	500	7.80	40.0	22.0
		11/13/95	448	8.99	8.65	20.4
		03/14/96	361	9.39	1.10	16.4
		06/24/96	360	8.43	1.59	23.1
		09/20/96	375	8.23	6.12	24.0
MW5-11 (Zone 3)	310-320	10/10/95	510	7.49	75.3	22.5
		11/13/95	510	7.53	10.9	20.2
		03/14/96	590	7.47	10.1	16.6
		06/24/96	570	7.11	24.7	23.5
		09/20/96	590	7.71	13.2	22.0

Notes:

μmhos/cm = micromhos per centimeter

SU = standard unit

NTU = nephelometric turbidity unit

bgs = below ground surface

MSL = mean sea level

Ground surface elevation = 493.6 feet above MSL

Top of MP casing elevation = 495.41 feet above MSL

Baldwin Park Operable Unit Field Parameters Measured During Sampling MW5-13

Well ID	Screened Interval (feet bgs)	Sampling Date	Electrical Conductivity (µmhos/cm)	pH (su)	Turbidity (NTU)	Temperature (°C)
MW5-13 (Zone 3)	340-350	01/18/96	445	7.54	1.09	18.3
		02/15/96	482	7.86	4.47	19.9
		03/14/96	452	7.70	0.85	16.0
		06/21/96	478	7.20	2.37	20.7
		09/19/96	491	7.77	3.09	25.0
MW5-13 (Zone 2)	520-530	01/18/96	437	8.24	85.3	18.5
		02/15/96	482	8.24	14.9	20.4
		03/14/96	461	8.03	1.62	15.9
		06/21/96	482	7.39	6.63	20.1
		09/19/96	439	8.15	9.36	24.7
MW5-13 (Zone 1)	684-694	01/18/96	408	8.24	85.8	18.3
		02/15/96	369	8.61	7.71	20.4
		03/14/96	349	8.54	1.00	17.3
		06/21/96	340	8.06	3.35	19.9
		09/19/96	368	9.17	3.61	23.1

Notes:

μmhos/cm = micromhos per centimeter

SU = standard unit

NTU = nephelometric turbidity unit

bgs = below ground surface

MSL = mean sea level

Ground surface elevation = 530.8 feet above MSL

Top of MP casing elevation = 533.74 feet above MSL

Baldwin Park Operable Unit Field Parameters Measured During Sampling MW5-15

Well ID	Screened Interval (feet bgs)	Sampling Date	Electrical Conductivity (µmhos/cm)	pH (SU)	Turbidity (NTU)	Temperature (°C)
MW5-15 (Zone 1)	670-680	07/09/96	500	8.02	115	18.8
		08/13/96	485	7.86	4.27	25.5
		09/23/96	500	8.09	5.18	23.0
MW5-15 (Zone 2)	450-560	07/09/96	500	7.87	6.93	18.3
		08/13/96	475	8.00	1.92	24.5
		09/23/96	492	8.06	3.9	22.5
MW5-15 (Zone 3)	235-245	07/09/96	500	7.93	3.00	18.7
		08/13/96	412	8.30	1.28	25.0
		09/23/96	459	8.39	2.84	21.0

Notes:

μmhos/cm = micromhos per centimeter

SU = standard unit

NTU = nephelometric turbidity unit

bgs = below ground surface

MSL = mean sea level

Ground surface elevation = 359.99 feet above MSL

Top of MP casing elevation = 359.06 feet above MSL

Baldwin Park Operable Unit Field Parameters Measured During Sampling MW5-17

Well ID	Screened Interval (feet bgs)	Sampling Date	Electrical Conductivity (µmhos/cm)	pH (SU)	Turbidity (NTU)	Temperature (°C)
MW5-17 (Zone 1)	698-708	10/30/95	470	7.84	10.75	23.0
		11/30/95	471	7.43	2.57	20.5
		03/15/96	398	8.14	2.35	15.4
	•	06/24/96	300	7.68	1.44	22.9
		09/20/96	435	8.34	2.88	20.5
MW5-17 (Zone 2)	540-550	10/30/95	520	7.77	14.67	22.5
	<u> </u>	11/30/95	510	7.58	1.55	18.8
		03/15/96	510	7.95	2.20	16.3
		06/24/96	360	8.43	1.59	23.1
		09/20/96	560	8.02	3.20	20.0
MW5-17 (Zone 3)	305-315	10/30/95	550	7.53	4.53	21.4
		11/30/95	550	7.52	1.83	18.5
		06/24/96	570	7.11	24.7	23.5
		03/15/96	600	7.91	2.92	15.6
		09/20/96	580	7.43	3.36	23.0

Notes:

μmhos/cm = micromhos per centimeter

SU = standard unit

NTU = nephelometric turbidity unit

bgs = below ground surface

MSL = mean sea level

Ground surface elevation = 509.4 feet above MSL

Top of MP casing elevation = 511.15 feet above MSL

Baldwin Park Operable Unit Field Parameters Measured During Sampling MW5-18

Well ID	Screened Interval (feet bgs)	Sampling Date	Electrical Conductivity (µmhos/cm)	pH (SU)	Turbidity (NTU)	Temperature (°C)
MW5-18 (Zone 1)	780-790	06/03/96	422	8.23	46.2	24.5
		07/09/96	446	7.22	1.81	18.2
		09/23/96	700	7.79	2.5	23.5
MW5-18 (Zone 2)	630-640	06/03/96	491	7.81	39.2	23.9
		07/09/96	480	7.54	3.82	18.5
		09/23/96	495	7.95	2.16	21.5
MW5-18 (Zone 3)	500-510	06/03/96	700	7.79	38.8	22.8
		07/09/96	700	7.47	3.54	19.0
		09/23/96	401	8.06	2.35	20.5

Notes:

μmhos/cm = micromhos per centimeter

SU = standard unit

NTU = nephelometric turbidity unit

bgs = below ground surface

MSL = mean sea level

Ground surface elevation = 494.36 feet above MSL

Top of MP casing elevation = 494.07 feet above MSL

	10001									
Well No.:	North	≝ا	Site: Bala	dwin Park Opera			Date: 6/27/96			
Client: Sa	n Gabriel Bo	isin Water Ou	allty Authori	ty Project t	No.: 2581-1	12-00x TY-19	ayp			
Well Casing	Diameter:	2" 4"	6~ (Others	Well Cash	ng Material:	PVC SS Other	`:		
Well Headspo		D (ppm):				FID (ppm):				
Sampler:	<u>IM</u>	Lev,								
Total Depth	of Well (fee	-	5-340	Reference F	Point: 1	ip of wai	Datum: _			
Depth to Wa	iter (feet):	C 24	3.80	•						
Water Colum	n Helght (fe	eet):	96.20 cm	2" - 0.16 4" - 0.65 6" - 1.47) Gal/feet	62.5	3 (x) 3 = 187.59	Minimum Purge Volume (Gallons)		
PURGE MET	HOD:	•			-		РVС Г	7		
	Submersible Pump Bladder Pump Hand Pump Peristaltic Pump Bailer: Teflon (PISTON PUMP)									
Pump Make/	'Model:	La Mar	Ext	action Dr	yer 50	SC FM Strug	Purge Equipment Decon'd?	у 🗆 и 🗆		
Depth of Pu	mp Intake (1	feet): ~ 3	30	Purge/Deco	on Water Y	N []	N	= 937, 400ge		
		•	•	Contal	nerized?		Volume?			
Time	. Gallons	(c) F)	рН	Conductivity (umhos/cm)	Turbidity (NTUs)	Other	Observations/Comment			
0913	3.8	25.5	6.98	610.	4:23		der, no bubbles			
0923	4% B	23.4	6.88	580	2.72		chan, with bubble			
0935						>	Pap on.			
093L	45.6	24.3	7.06	580	3.00		Sm buldles clear	,		
0946	83.6	23.6	6.99	599	2.78		18 is 30se			
0956	121.6	23-6	6.96	_590	280		590tin 1- 1-31.19	see		
1006	129.6	23.8	6.98	-570 570	200		son publis, de			
1016	191.6		6.96	590	5.32		son bibbe, cher			
10.10	[7,4		8,76	-570	3.32	-				
			<u> </u>							
					<u> </u>					
L			<u> </u>			_1				
041.50	n = 00! 150	TION METUS	D-			CALIDI E	ANAI YSES.			
		to Sodal	•	Meth	od:		ANALYSES: htainer Type/Vol.	Preservative		
Pump: 3	Flow ro	ite:	1010800	8021		3-40 ml	VOAs.	HCC		
Other:	Desc.:						, 			
Sample ID:	BR-GW-	WIONEM	WI- 062194	 	<u></u>			-		
Oup. ID (If appl.): 1020								-		
Sample 1 im	<u> </u>			<u> </u>						

environmental engineers, scientists, planners, & management consultants

	Well No.:	WRAC		Site: Bal	dwin Park Oper	able Unit		Date: 9-27-96		
	Client: So	an Gabriel Bo	asin Water Qu	olity Author!	ity Project	No.: 2581-11	2-CG			
	Well Casing	Diameter:	2" (4"	6~	Other:	Well Casing	g Material:	PVC SS Other:		
	Well Heads	oace: P	ID (ppm):				FID (ppm):			
l	Sampler:	SCHUM								
	Total Depth	of Well (fe	et): 3	40	Reference I	Point: To	o o f casin			
	Depth to W			2.42,-	0.16		0	7		
	Water Colum	nn Height (fe	net): <u>-</u>	17.75 17.75 (X	2" - 0.16 4" - 0.65 6" - 1.47	Gal/feet	13.57.44	3 190.61 Minimum Pur 4772-39 Volume (Gallons)		
	PURGE MET	THOD:	•			<u>.</u>		PVC		
	Submersible Pump Bladder Pump Hand Pump Peristoltic Pump Bailer: Teflon									
	Pump Make	/Model: l	8 Mant	Extrail	ion Prye,	SOSC	fm series	Purge Equipment Decon'd? Y N		
	Depth of Pu		feet):		•	on Water Y [nerized?		Container Type/ Polytank Volume? VDD Calum		
-	Pump	on 10919					1	0		
	Time	. Gallons	Temp. (C / F)	рН	Conductivity (Imhos) cm)	Turbidity (NTUs)	Other	Observations/Comments		
	095 0	~0.5	23.0	7.37	600 .	2.71	char	2.6 gpm		
	0953	21.3	22.0	7.48	SZS	4.32	chew			
	6906	42.10	19.8	7.44	SZS	3.53	clia			
	1014	62.90	19.8	7.57	525	4.01	deur			
	1024	88.9	19.5	7.59	525	4.80	clean			
	1032	109.7	19.5	7.4	SZS	4.13	dean			
	10 ५८।	133.10	, 19.5	7.50	575	3.71	dia			
	1049	153.90	19.5	7.40	650	5.80	dear			
	10 57	174.70	20.0	7.47	525	4.83	chen			
	rallo0	14835	20.0	7.41	S28	4.02	char			
	1105	ા ૧૬⋅૬			· .			Symple		
	SAMPLE COLLECTION METHOD: SAMPLE ANALYSES: Method: Container Type/Vol. Preservative									
	Pump: U	Flow ra	te:		Method: 8260		3-40ml			
	Other:	Desc.:								
		•	NONC WA	V1-09279	·					
	Oup. ID (If appl.): Sample Time: 1/95									
_										
		î								

Well No.:	Baldui	3	Site: Bal	dwin Park Oper	able linit		Date: 10/17/	191		
Client: S	ian Gabriel Be	asin Water Ou		1		12-CG	1 1-1/1/	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
	g Dlameter:	2" 4"		Other:		g Material:	PVC SS Othe	r:		
Well Heads	pace: P	(D (ppm): ~				FID (ppm):				
Sampler:	HU.	w				1	- Maria			
			71		1		\			
•	h of Well (fe	et): <u> </u>	<u> </u>	Reference i	Point:	7 of Sound	Stellar Datum:			
Depth to W	ater (feet):		یک	2" - 0.16						
Water Colu	mn Helght (fe	et): <u>3</u>	147 (x	6" - 1.47		<u>9507.</u>	6 (x) 3 = 28523.	Minimum Purge Valume (Gallons)		
PURGE METHOD: ~76 27. 40										
	Submersible Pump									
Pump Make	Pump Make/Model: Resolution Will Purge Equipment Decop'd2 V N N									
Depth of P	ump Intake (1	feet):	?	Purge/Dec . Conta	on Water Y inerized?	□ n□	Container Type/ INTO Volume?			
Punga	Q 113	4			<u>.</u>					
Time	. Gallons	Temp. (C / F)	На	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Commen	is		
1137	7200	20.0	7.74	485	7.09	دلس	24200100			
1140	14400	195	7.74	485	6,51	معل				
1143	21,600	19.2	7.71	478	5.17	معم				
1146	75,900	19.1	7.69	480	4.14	clu				
						·				
						- 				
					·		, .			
<u> </u>	. <u>'</u>		·							
SAME	PLE COLLEC	TION METHO	<u>):</u>				ANALYSES:			
Pump:	☐ Flaw ra	te: How in	23sec	Meth 8260	od:		tainer Type/Vol.	Preservative		
Baller: [Type:			nada_			1 100 schor	HCL		
_		NA 12 -0-	· la · co ·	Hital			of boly	704		
Sample ID: Dup. ID (If	•	01900882	101796	Com N		(- 10	oo w poly	<i>‡</i>		
Sample Tin		49								
						٠	× ×			

Cilent: Sgn Gourtet Basin Water Quality Authority Project No.: 2581-12-CG	Well No.:	E Derbe	≟ I	Site: Bat	dwin Park Oper	able Unit		Date: 9-27-9	1
Wall Casing Diameter 2" 4" 6" Other ? Wall Casing Marteriols PVC SS Others		<u></u>					3-CG		6
Wetl Headspace: PID (ppmls FID (ppmls 7								PVC SS Other	·:
Sampler MUND7 Sampler MUND7 Sample Mund7			D (ppm):		· · · · · · · · · · · · · · · · · · ·	1	i		
Total Depth of Well (feeth: 500						<u></u>	7 10 <u>10 10 10 10 10 10 10 10 10 10 10 10 10 1</u>		
Depth of Pump Intake (feet): Purge/Decon Weter Pump Destand Pump Purge Equipment Decond Pump Pump No.	Sumpton		E	33					
Water Column Height (feet): Y2.0			=1):		Reference F	Point:	ुड.	Datum: _	
Water Column Height (Feet):	Depth to Wo	ater (feet):	<u>~80</u>	ه)(م	عااصط دعماiri 2" - 0.16	ndo collect	·wL).		Malaura Dana
Submersible Pump Bladder Pump Hand Pump Peristotic Pump Baller: Teffan Sis Disposable Pump Make/Model: Pump Make/Model: Purge Equipment Decon'd? Y N Depth of Pump Intoke (feet): Purge/Decon Water Y N Container Type/ Volume? Purge Equipment Decon'd? Y N Purge/Decon Water Y N Other Observations/Comments OT 36 Container Type/ (MTUs) Other Observations/Comments OT 45 V 17.0 7.45 330 3.9	Water Colum	nn Height (fe	et): 424	2 (x	4" - 0.65 6" - 1.47	Gal/feet	- PE20.	2 (X) 3 = 20,551	Volume
Submersible Pump Bladder Pump Hand Pump Peristotic Pump Bailers Teflon Cisposable Pump Make/Madel: Pump Make/Madel: Pump Intake (feet): Pump Make/Madel: Pump Make/Madel: Pump Make/Madel: Pump Make/Madel: Pump Make/Make/Madel: Pump Make/Make/Madel: Pump Make/Make/Madel: Pump Make/Make/Make/Make/Make/Make/Make/Make/	PURGE MET	HOD:	•		~20 "-16.3	!		еус Г	7
Depth of Pump Intoke (feet): Purge/Decon Water Y N Container Type/ Volume?	Submersible			-		Peristal	tic Pump 🔲	Teflon [Bailer: SS [
Time Gallons Temp. pH Canductivity Turbidity Other Observations/Comments	Pump Make	/Model:	Moderati	in week			-	Purge Equipment Decon'd?	Y 🗆 N 🗀
D735 B. 0 7.45 340 2.69 wh. timedian	Depth of Pu	ımp Intake (f	eet): 2	•	Purge/Dec . Contal	on Water Y (nerized?	N	Container Type/ Volume?	
SAMPLE COLLECTION METHOD: SAMPLE ANALYSES: Preservative Bailer: Type: Type: Type: Desc.: 300 T-500 Desc.: 300 Desc.:	Time		Temp. (C / F)	pН		turbidity (NTUs)	Other	Observations/Comment	s
SAMPLE COLLECTION METHOD: SAMPLE ANALYSES:	D735	diselect	B.0	7.45	340 .	2.69		who trivater	
SAMPLE COLLECTION METHOD: SAMPLE ANALYSES:	0740	7	18.0	7.65	330	-3.94		tı tı	
SAMPLE COLLECTION METHOD: Pump: Flow rate: Baller: Type: Stop 3 Your UNK NCL Other: Desc.: 300 I-Stop July Straw Sample ID: Preservative Brown 1927 920 - 0927 92	0745	~	17.0	7.23					
Pump: Flow rate: Method: Container Type/Val. Preservative Bailer: Type: 8260 3 10 10 10 10 10 10 10 10 10 10 10 10 10									
Pump: Flow rate: Method: Container Type/Val. Preservative Bailer: Type: 8260 3 10 10 10 10 10 10 10 10 10 10 10 10 10									
Pump: Flow rate: Method: Container Type/Vol. Preservative Bailer: Type: 8760 3. 10 N N N N N N N N N N N N N N N N N N							L		
Pump: Flow rate: Method: Container Type/Vol. Preservative Bailer: Type: 8760 3. 10 N N N N N N N N N N N N N N N N N N									
Pump: Flow rate: Method: Container Type/Vol. Preservative Bailer: Type: 8760 3. 10 N N N N N N N N N N N N N N N N N N									
Pump: Flow rate: Method: Container Type/Val. Preservative Bailer: Type: 8760 3-10-10-10-10-10-10-10-10-10-10-10-10-10-									
Pump: Flow rate: Method: Container Type/Vol. Preservative Bailer: Type: 8760 3. 10 N N N N N N N N N N N N N N N N N N									
Pump: Flow rate: Method: Container Type/Vol. Preservative Bailer: Type: 8760 3. 10 N N N N N N N N N N N N N N N N N N									
Pump: Flow rate: Method: Container Type/Vol. Preservative Bailer: Type: 8760 3. 10 N N N N N N N N N N N N N N N N N N									
Pump: Flow rate: Method: Container Type/Vol. Preservative Bailer: Type: 8760 3. 10 N N N N N N N N N N N N N N N N N N									
Pump: Flow rate: 8260 3. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10	SAMF	PLE COLLEC	TION METHO	<u> </u> <u> </u>	1		SAMPLE	ANALYSES:	
Sample ID: Type: Sale 300 1-500 Desc.: Sample ID: OT 62	Pumo:	□ Flaw ra	te:			od:	Cor	ntainer Type/Vol.	
Sample ID: BP-GW · 019 07 920 - 092792	Bailer:	Type:							
Dup. ID (If appl.):	Other:		.0.00	37			1-20	on pory	155/12
$N \cap \mathcal{U}_2$		•	01400	100-0977	790	+			
anomale trainer		A)	750		 				
	Sample III	16:			L				

CDN environmental engineers, scientists, planners, & management consultants
planners, & management consultants

Well No.:	. Arbin		Site: Bal	dwin Park Oper	able Unit		Date: 6/27/9	<u></u>	
Client: S	an Gabriel B	asin Water Qu	ality Authori	ty Project	No.: 2581-1	112-CETY- SAM			
Well Casing		2″ 4″		Other:		ng Material:	PVC SS Othe	r:	
Well Heads	ogce: P	ID (ppm):	*			FID (ppm):			
Sampler:	<u>IM</u>	POTO	E: PUMP	19-780 CCN A	T 0400 T	HIS HORPING			
Total Depth	of Well (fe		20			7131(021111			
Depth to W	ater (feet):	_~	<u> </u>	•••					
Water Colum	nn Height (fo	eet):	420 (X	2" - 0.16 4" - 0.65 6" - 1.47	Gal/feet	. 6,850	(X) 3 = <u>ZO, SS1</u>	Minimum Purg Volume (Gallons)	
PURGE ME	THOD:			20 " - 16	_31		PVC 1		
Submersible	Pump	Bladder P		Hand Pump	Peristo	altic Pump 🔲	Bailer: Teflon SS Disposable		
Pump Make	/Model:	Production	بر لعو ۱		·····		Purge Equipment Decon'd'	N D M	
Depth of Pump Intake (feet): Purge/Decon Water Y N Container Type/ Not applied Container Type/ Volume?									
Time	· Gallons	Temp.	pН	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Commen	ts	
0743	dischar	20.4	7.25	320	4,39		white water, lots of	t MADRIE	
0747	7	20.5	7.18	305	12.89		جم سد دم « له رس	•	
0752		S0 · R2	6.97	310	6.80		Sam eschou		
0754		20.4	6.93	310			Sign as about		
	_	TION METHO	<u>D:</u>	Metho	od:		ANALYSES: htainer Type/Vol.	Preservative	
Pump:	☑ Flow ra ☑ Type:	te:		8021		3-40-m		HCL	
Other:	Desc.:								
Sample ID:		01902926	-062:94	 					
Dup. ID (If Sample Tim	^	800							

CAL HOT		Durbin	Site: Ba	ildwin Park Oper	able Unit		Date: O4 12	190
Client: S	an Gabriel B	asin Water Ou	allty Author	rity Project i	No.: 2581-	112-CG		
Well Casing	Dlameter:	2" 4"	6~	Other: 20	Well Casi	ng Material:	PVC SS Othe	er:
Well Heads	pace: P	ID (ppm):				FID (ppm):		
Sampler:	HUND	<u> </u>						
•	of Well (fe	.617.	00	Reference f	Point:	**************************************	Datum:	
Depth to W	ater (feet):	(<u> </u>	<u>80</u>)	2" - 0.16				Minimum Purge
Water Colur	nn Height (f	eet):	120 0	6" - 1.47		-6850.7	(x) 3 = 29551	Volume (Gallons)
PURGE ME	THOD:	•	~	-20 16-3	<u> </u>		PVC	
Submersible	Pump 🗍	Bladder P	ump 🔲	Hand Pump	Perist	altic Pump 🔲	Bailer: Teflon SS Disposable	
Pump Make	/Model:	Product	م لاو	معاف			Purge Equipment Decon'd	? Y 🔲 N 🔲
	ump Intake (feet): 0600	·	Purge/Dec Contai	on Water Y Inerized?	□ nØI	Container Type/Volume?	
Time .	. Gallons	Temp.	рΗ	Conductivity (umbos cm)	Turbidity (NTUs)	Other	Observations/Commer	its
0923		16.4	7.09	330	1.94	bubbles/	Totalu, SDY132 x1000	
0924		16.6	7.05	330	2.0	ti	5041 39 X1000	
0926		12.7	7.03	3 40	2.0	11	504141 X1000	
								
				 				
						-		
				 		- 		
		l		ļ				
L	<u> </u>	1	1	<u> </u>	l			
SAME	PLE COLLEC	TION METHO	<u>D:</u>			SAMPLE	ANALYSES:	
Pump:	J Flow ro		hours	Meth	od:	Cor	ntainer Type/Vol.	Preservative
Baller:	Type:		,	802		6 8X EDM	WAS	1 rcc
Other:	Desc.:			GM , TD		4 X X 1/	- poly	10n
		1402920-L	290140	Metals, M. Bica. bord	1675 + LACT			
Dup. ID (If		<u>)C</u> 930		Redun	<i></i>	9 X 401	M VONS	- were
Sample Tim	16:			1000			,1103	1

environmental engineers, scientists, planners, & management consultants

Well No.: Keyle	sell_	Site: Bal	dwin Park Oper	able Unit	-, 	Date: 9-25-9	6			
Client: San Gab	riel Basin Water O	uality Author	ity Project i	No.: 2581-11	2-0G TY-SAM	(16				
Well Casing Diam	eter: 2" 4"	6~	Other: 5"	Well Casin		(PVC) SS Othe	ŕ:			
Well Headspace:	PID (ppm):				FID (ppm):					
Sampler: MU	<i>2</i> 2									
Total Depth of W		983	Reference f	Point: Tope	ofstand pr	pe Datum:_				
Depth to Water (eet): <u>[</u>	41.20	2" - 0.16			u.				
Water Column Hel	ght (feet): N	1.B (x		Gal/feet	- 143:2	2 (x) 3 = \(\frac{\fir}{\fint}}}}}}{\frac{\fir}{\fin}}}}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\fir}}}}}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\fir}{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\	Minimum Purge Volume (Gallons)			
PURGE METHOD:	•		5 " - 1-0	<u>!</u>		PVC I	7			
Submersible Pump										
Pump Make/Mode	: Subme	ruble Pe	rup Grun	Ofos 5H	P 2/1"	Purge Equipment Decon'd'	 ? Y [] N []			
Depth of Pump Intake (feet): 160 Purge/Decon Water Y N Container Type/ Poly tank Container Ized? Container Type/ 625										
Augon O	917	·		5						
Time . Gal	ons (C / F)	pН	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Commen	ts			
0917 0	21.0	7.43	58595	16.32	bubble	Door start before	u GAM			
0923 4	19.0	7.50		4.11		5.26 gpm				
093b 43	19.0	7.31	550	4.06	bubbles	small bubbles, be	t clear.			
0938 8	7 19.0	7.57	500	3.80	b	Parport				
0946 13	1 19.5	7.59	500	3.09	ц					
0954 1	13 195	7.59	520	2.83	i,					
	5 19.5	7.58	500	2.64	lı .					
1015 250	F 20.0	7.68	560	4.49	1,	Problemuith pung	on + of (!)			
1024 20	9 195	7.65	550	3.07	4	1				
1031,040	19.5	7.48	<i>ঙ</i> ৫০	2.66	(1					
to \$1\$100 4		7.55	ভত্ত	2.38	4	,				
丝	<u>ia</u>									
Pup off	1104			* · · · · · · · · · · · · · · · · · · ·	<u> </u>					
	LLECTION METHO			- 4		ANALYSES:	10			
	ow rate: Zoon	24sec	Metho 8260	WC	3-40ml	ntainer Type/Vol.	Preservative HCL			
	/pe:			Vitates+	1-250ml	·	none			
Sample ID: 189	W-2100000	6-092596		Mitrotus						
Dup. ID (If appl.):	1 OKO 1	1001100				·	-			
Sample Time:		100110								
					•					

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W-11 - N-	1/ ·	.01	Sita				Date: 6/25/9(
	. Keyuu		L	dwin Park Oper			Date: 4/25/7(<u> </u>	
		asin Water Qu			<u> </u>				
Well Casing		2" (43)	6" (Other: 5"	Well Casing	Material:	PVC SS Other	:	
Well Heads		ID (ppm):	<u></u>			FID (ppm):			
Sampler:	Muloz		83						
· ·	n of Well (fe	et): <u>2</u>	9 <u>B</u>	Reference i	Point: Ta	p of stan	Datum: _	·····	
Depth to W	ater (feet):		9.93	2" - 0.16		144.50) <u>42</u> 2 < 1) Minimum Purge	
Water Colum	mn Height (fe	eet): <u> 14</u>	3.07 (x	2" - 0.16 4" - 0.65 6" - 1.47	Gal/feet		(X) 3 = 278.9 2	Volume (Gallons)	
PURGE ME	THOD:	•	-	5 1.0	Ĺ		PVC [7	
Submersible Pump N Bladder Pump Hand Pump Peristaltic Pump Bailer: SS Disposable									
Pump Make/Model: Graval 505 0.8HP Purge Equipment Decon'd? Y N									
Depth of Pump Intake (feet): Purge/Decon Water Container Type/ Soof Take Container Type/ Volume?									
Pa	-p slaul	L@ 08.	S8			1			
Time	Gallons	(C) F)	рН	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other いட	Observations/Comment		
0900	4.63	25.6	6.36	600	2.57		4.63 gpm / She	deline	
0910	56.1L	23.0	6.80	580	1.11		, isubbles in 6	ceden is	
0920	96.8	23.0	6.82	580	1.3				
0930	199.70	73.1	6.84	585	1.71	139.97	Bubble in our) el	10~	
0940	196.50 190.4	23.3	6.96	S8S	1.13		Bubble 14 Chi / Cher	l	
09 50	到步	23.3	7.01	282	0.81		Bubbles in Gur/ Clar	>	
1000	3846	23.4	6.94	580	1.01		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
1010	330-16	23.4	7.22	282	1.0		1. 31		
1020	393	24.1	7.01	5.85	1.67		1, 4		
1030	430.51	23.4	7.02	288	1.50	 	·, \\		
7031	43524								
	† <u>`</u>			<u>-</u>					
L		1	1		<u> </u>	<u></u>	1		
SAM	PLE COLLEC	TION METHO	D:,				ANALYSES:		
Pump:	Pump: Flow rate: Street 1201 Act 1201 Preservative								
Bailer:	Type:				VOC	3-40Ml		HCL	
Other:	Other: Desc.: Nityales 300 150-ml poly none								
Sample ID:			6-069576					-	
	Dup. ID (If appl.):								
	=								

		- 1 -					·····		 ,
Well No.:	2100000	6 303F	Site: Ke.	Web ,			Do	ote: 4/19/9	6
Client: W	Q.A				No.: 2581-	112-74-5A	twb		
Well Casing	Diameter:	2" 4"	6" (Other: (5")	Well Casi	ng Material:	PVC	SS Other	:
Well Headsp	oace: Pl	ID (ppm):				FID (ppm):			
Sampler:	S. TAN	MEHILL							
Total Depth	of Well (fe	et): 21	B-3.00	Reference F	oint: TO	c Nothin P	VC	Datum: _	
Depth to W			39.61			1 × 143.39			
Water Colum	nn Height (fe	eet):	13.39 (x	2" - 0.16 4" - 0.65 5"	~ · · · · /			= _438,7	Minimum Purg Volume (Gallons)
	THOD.			6" - 1.47 " -	•			_	<u> </u>
PURGE MET					-		1	PVC Teflon	=
Submersible	Pump 🔀	Bladder Pu	ımp [_]	Hand Pump	ا Peristo المعادد] Bailer:	'ss 📮	
D	04.1.1	3" G	1.f-(1)	y flow 2 -			D	Disposable L	
Pump Make				•		•	Purge Equ	uipment Decon'd?	Y 🔀 N 🗌
Depth of Pu	ımp İntake (1	feet):	160	Purge/Deco Contai	on Water Y	N 🗆	Containe	r Type/ · Volume?	
Time	Gallons	Temp.	На	Conductivity (µmhos/cm)	Turbidity (NTUs)	DO (ppm)	Eh (mV)	Observation	s/Comments
81.55	~37	14.5	6.82	700	1.53			0=4.11ypm, 1	32. \$6 purp on
9:01	~62	19.0	6.89	601	72,35				
9:05	-78	18-1	7.10	600	0.75				
9:10	~986	17.9	7.16	580	0.91				
9:18	~132	18.0	7.20	580	0.78				·
9:25	~160	18,4	7.25	580	0.73			× 9:26 Pm	polied, 9:2
9:36	~ 206	18.7	7.26	599	6.74		 	+9:45, page	
9:46	~230	18,4	7.26	580	0.65			19:56 pmp = 1	
9:54	~263	18.4	7.28	580	0.44		 -	*8:56 pmp oft	9157 pmp om
(0:03	~ 296	19.3	7.32	599	0.46	- 	 		
10:19	f				0.42	- -			
10:38	~382	19.0	7,29	595			 -	Value reasure	in tak
11:15	-300**	19.6	7.36	600	0.36			4x6.667x	- ×7.48=
11:37	~447	20.5	7.38	600	1.12	SAMPI F	ANALYSES	feedy to sury	ole.
•		TION METHOD		Meth	od:		ontainer Typ		Preservative
Pump: Dailer:	≰ Flow ra Type:	te: <u>4.11 </u>	——————————————————————————————————————	9021		3-40 we VE	4'5		HC1
Other:	Desc.:			3021		2-40~ VO			ļ
Sample ID:	69-GW-Z	160 006-0	41996	Matals, Gardins,	TD6,755	2-16 Paly			ļ
Dup. ID (if		1 . 11	·····	Radon-		1-125 ml)	4mber		
Sample Tim	ie:	1:45							

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Sample Time:	DOIS C	2
CDM environmental engin planners, & manage	neers, sclentist ement consultan	s, ts

Set No. Set Set Site Baldwin Park Operable Unit Date: 9-90-96
Well Casing Diameter: 2" 4" 6" Other: 20 Well Casing Material: PVC SS Other:
Sampler: Munoz, Decs
Total Depth of Well (feet): 451 Reference Point: Datum: Depth to Water (feet): 250 2" - 0.16 Minimum Pum Water Column Height (feet): 251 (X) 4" - 0.65 Gal/feet - 4.093.81 (X) 3 - 12.281.43 (Gallons) 6" - 1.47 PURGE METHOD: 201" - 16.31 Pump Make/Model: Podula Wall; Geval flarp Pump Baller: Teflon SS Disposable Pump Make/Model: Podula Wall; Geval flarp Purge/Decon Water Y No Container Type/ Volume? Pump Make/Model: Podula Wall; Geval flarp Purge/Decon Water Y No Container Type/ Volume? Time Gallons (C) F) pH Conductivity Turbidity Other Observations/Comments OBOB 18.5 87.08 349 310 No Observations/Comments OBOB 18.5 7.83 3.58 3.53 Clas 10, as allowed to 3.22 of 3.50 clas 10.32 of 3.53 clas 10.32
Depth to Water (feet): 25 (X) 4" - 0.65 6al/feet - 4,093.81 (X) 3 - 12,281.43 (Valume Purp Purp Equipment Decon'd? Y N N N N N N N N N
Depth to Water (feet): 25
Water Column Height (feet): 25 (X) 4" - 0.65 6al/feet - 4/093.81 (X) 3 - 12,281.43 (Gallons) Volume Vol
Submersible Pump Bladder Pump Hand Pump Peristaltic Pump Baller: Teflon SS Disposable Pump Make/Model: Pockulter Well; General Pump Purge Equipment Decon'd? Y N Depth of Pump Intake (feet): Purge/Decon Water Y N Container Type/ Volume? Tunger OBO7 Time Gallons Temp. Ph Conductivity Turbidity Other Observations/Comments OBOB 18.5 87.88 3.49 Clar Clar Constainer
Depth of Pump Intake (feet): \(\frac{\sqrt{\sqrt{\text{Not}}}}{\sqrt{\text{Container Ized?}}} \) \(\begin{array}{cccccccccccccccccccccccccccccccccccc
Time Gallons (C)F) pH Conductivity Turbidity Other Observations/Comments 0808 18.5 87.88 349 3lear ~1000 cella_; dear bubble 0812 18.5 7.83 358 3.53 clear 10,000 cella_; 0821 18.5 7.80 350 3.50 clear totalizations Page of C 0822 emply Straps
Time Gallons (C)F) pH (Conductivity Turbidity Other Observations/Comments 0808 185 87.88 349 340 ~1000 selle ; dear bubble 0812 185 7.83 358 3.53 clear 10,000 selle ; 0821 18.5 7.80 350 3.50 clear totalizations Par of 8 0822 emply Strap
0808 18.5 87.88 349 Eller ~1000 seller; dean bubb. 0812 18.5 7.83 358 3.53 Eller 10,000 seller. 0821 18.5 7.80 350 3.50 eller totalizass 3000 Pag of 0822 emply storage
0812 18.5 7.83 358 3.53 Lea 10,000 plly 0821 18.5 7.80 350 3.60 lea +012/2,005 3000 Papoff 0822 emply strup
0812 18.5 7.83 358 3.53 che 10,000 plus 0821 18.5 7.80 350 3.60 che totalianos 53000 Par of & 0822 emply storage
Page of 8 0822 emply storage
0840 19.0 7.89 350 2.10 clea
0842 19.0 7.87 358 2.10 dear
SAMPLE COLLECTION METHOD: SAMPLE ANALYSES:
Pump: Flow rate: 40 ml in 30 see 8260 3-40 ml VOA HCL
Other: Desc.:
Sample ID: 88-6W-080000 70-09 2096
Dup. ID (If appl.):
Sample Time: 0850

Well No.: Squ	ti Fe we	4 Site:	Baldwin f	Park Oper	able Unit		Date: 6/27/91		
Client: San Ga	briel Basin Wo	ater Quality A				MAR-4725-5	p	2	
Well Casing Dian		4" 6"		· · · · · · · · · · · · · · · · · · ·		g Material:			
Well Headspace:	PID (ppn	n):				FID (ppm):			
Sampler:	IM_								
Total Depth of \		s Congan u	_			ster use for	erigetten. Datum:		
Depth to Water	feet):	<u></u>		"					
Water Column He	light (feet):	***************************************	(X) 4'	" - 0.16 ' - 0.65 " - 1.47	Gal/feet	-	(X) 3 =	Minimum Purge Volume (Gallons)	
PURGE METHOD				."	-		PVC []	
Submersible Pump Bladder Pump Hand Pump Peristaltic Pump Bailer: Teflon SS Disposable Pump Make/Model: Purge Equipment Decon'd? Y N									
Pump Make/Mod	el: Pyo	duction le	يو.۷ ـ				Purge Equipment Decon'd?	Y N	
Depth of Pump Intake (feet): Purge/Decon Water Y N Container Type/ Volume?									
Time . Go	allons (C	mp. V F) pl	H Con-	ductivity hos/cm)	Turbidity (NTUs)	Other	Observations/Comments	;	
1113	21	.4 1.0		20	3.80		cles after game		
1116	000 25	.8 7.	11 4	946	3.10		и		
1121 80	000 24	8 7.3	34 4	10	9.10		bubble		
1125 89	13; Deb 2)	1.2 7.	29 4	10	9.43		bibbles wysmall.		
1130 88	133 24	.3 7.2	25 }	110	16.0		tons of bubbles.		
10	M_{\perp}								
							· · · · ·	,	
SAMPLE	COLLECTION	METHOD:				SAMPLE A	ANALYSES:		
_	Flaw rate:			Meth		Con	tainer Type/Vol.	Preservative	
Baller: 🔲	Type: Desc.:			3021		40 ml W	<u> </u>	Nec	
	-GW-080	1000 7A-11	ex19:	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\					
Sample ID: Pr. Dup. ID (if appl.	٠				7				
Sample Time: .	1035								
						•			

environmental engineers, scientists, planners, & management consultants

Well No.:	Polopolu	> .	Site: Bal	dwin Park Oper	able Unit		Date: 10-01	-96
Client: Sa	n Gabriel Be	asin Water Ou		The state of the s		112-66TY- ~ SAM		
Well Casing		2" 4"		Other: 16		ng Material:		ner:
Well Headsp	ace: P	ID (ppm):				FID (ppm):		•
Sampler: V	NIDZ							
Total Depth	of Well (fe	et): <u>26</u>	<u>do</u>	Reference 1	Paint: Tag	of dische	ac proi Datum	
Depth to Wa	•	16	<u>5</u>	^	r ((162)/3	= 1.39 per	por p 7.48 guller	
Water Colum	n Helght (fe	eet): <u>11</u>	5	44 . 0.00			35 (x) 3 = 3584	with trium trium and the
PURGE MET	HOD:	•		16 - 10.3	39	·	DVC.	
Submersible	Pump	Bladder Pu		Hand Pump	Peristo	altic Pump 🔲	PVC Teflon SS Disposable	
Pump Make/	'Model:	Product	لقد للكول	<u>'</u>			Purge Equipment Decon	43 Y 🔲 N 🗌
		feet);		P				· · · ·
_			•	Purge/Dec . Conta	on Water Y inerized?		Container Type/ Volume?	
On 19):'SC	- 1			<u> </u>			
Time	. Gallons	Temp. (C ∕ F)	На	Conductivity (umhos/cm)	Turbidity (NTUs)	Other	Observations/Comme	ents
1093		19.0	8.17	400 .	ත	egs brown	newpr	
1100	१००७	17.5	7.61	580	17.5	bubble		
1102	7000	125	7.58	530	7.6	''		
1103	3000	18.6	7.58	ĈŨŜ	5.7	ι,		
								•
	_	TION METHOD	<u>):</u>	Meth	od:		NALYSES: tainer Type/Val.	Preservative
Pump: 4 Bailer:] Flow ro] Type:			8260			1285	НСС
Other:	Desc.:				,			
	•	1902169-1	20190	 	K			
Dup. ID (If a		05						
	······································							

CDM environmental engineers, scientists planners, & management consultant

	·									
Well No.: Polapula Site: Baldwin Park Operable Unit Date: 4 27/96										
Client: San Gabriel Basin Water Quality Authority Project No.: 2581-112-06 TH-SWY P										
Well Casing Diameter: 2" 4" 6" Other: 16' Well Casing Material: PVC SS Other:										
Well Headspace: PID (ppm): FID (ppm):										
Sampler: I. Murve										
Total Book of Wall (foot). 280										
Reference Point: Datum:										
2" - 0.16 Strated Minimum Puras										
Water Colum	Water Column Height (feet):(X) 4" - 0.65 Gal/feet =(X) 3 = 375 Volume (Gallons)									
PURGE MET	THOD:	•					PVC			
Submersible	Pump 🚺	Bladder P	ump 🔲	Hand Pump] Perista	Itic Pump 🔲	Baller: SS			
				·		···	Disposable			
Pump Make	/Model:	Produce	tron lese	ol .			Purge Equipment Decon'd	Y U U		
Depth of Pu	ump Intake ((feet):		Purge/Deco	on Water Y	□ N □	Container Type/ Bake,	Ignk 98N		
		,• •	•	. Contai	nerized?	•	Container Type/ Bake, Volume? 9,7	00 galles		
`	I .	1 -	I			<u> </u>	1			
Time	. Gallons	(C) F)	рН	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Commen	ts		
1219		21.5	8.42	302.			Vilywalt, dup			
1221		22.1	7.57	600	.3 <i>8</i> °D		relight brown.			
1224	~ 3200	21.9	7.38	600	15.8					
1228	-3200	22.3	7.25	590	11.2		Sheen of out bubbles.			
\			[
16	}					<u> </u>				
		 								
 		 								
 /-		 								
├ <i>\</i>	 	ļ		·						
	1					<u> </u>				
=	up off	•	_			.				
		CTION METHO	U:	Meth	od: I		ANALYSES: ntainer Type/Vol.	Preservative		
Pump:	Flow r	ate:		8021		3-40-m	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	HCL		
Other:	Desc.:			WETCHE	H	1-11 po	ly	navo		
Sample ID:	BP-GW	-0190216	9-062796	Hetals		1-11 po	<u>ly</u>	nove		
Dup. ID (If	appl.):				, , -)			
Sample Tin	ne:	285		fa de M	kadon	1-120 m	l clean gloss	none		
						•				

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Well No.:	10(LAIDV=		Site: Bal	dwin Park Oper	able Unit		Date: 9/24/9	' <i>L</i>			
Client: Sa	n Gabriel B	asin Water Ou	ality Authori	ty Project I	No.: 2581-11	2-CG					
Well Casing Diameter: 2" 4" 6" Other: 20 Well Casing Material: PVC (SS,) Other:											
Well Headspace: PID (ppm): FID (ppm):											
Sampler:	Mo	2040									
			a)								
Total Depth			21,	Reference i	Point:		Datum: _				
Depth to Wa	Her (leel):			2" - 0.16				Minimum Purge			
Water Colum	in Helght (f	eet): <u>3</u>	<u>79 </u>	4" - 0.65 6" - 1.47	Gal/feet	- 6,1813	5 (x) 3 = 18,544	5 (Gallons)			
PURGE MET	HOD:	•		20 - 16							
Submersible		Bladder Pi			7		PVC Teflon				
SUBINIERS SOCIA-	+amb [4]	bladder Fl	ипр [_]	Hand Pump		ltic Pump 🔲	Bailer: SS	\Box			
		Producti	aule.	. Ø 1			Disposable				
Pump Make/	'Model:	. 7000		<u>ac</u>			Purge Equipment Decon'd'	K			
Depth of Pu	mp Intake (feet):		Purge/Dec	on Water Y	□ N □	Container Type/ 1124; Volume?	90711EA			
			•	. Conta	inerized?	•	volume? ·				
101511	Z 500	317000		0 - 1 - 11 11		1					
Time	. Gallons	Temp.	рН	Conductivity (umhos/cm)	Turbidity (NTUs)	Other	Observations/Commen	ts			
08542	~1006	20:0°C	8.27	. OEE	11.23	Turbid	Rupon U842 ~	1200 gpm			
08.4%		19.5	7.10	720	11.35	debei					
08 5248		19.5	700	150	6 60	li timbed					
							~~~				
D805		19.5	7.04	720	4,97		50829,000				
DB SC		19.8	7.00	750	3,72	alger.	50835,000				
						<b></b>					
		<u> </u>									
				· · · · · · · · · · · · · · · · · · ·			<del></del>				
SAMP	LE COLLEC	TION METHO	<u>):</u>			SAMPLE	ANALYSES:				
Pump: N Flow rate: Method: Container Type/Vol. Preservative											
Baller: Type: 8260 VOC 3-40m COS											
Other: _	Desc.:	Garagia o	c-11c	3020			of poly.	unpreserve			
	•	900029-0	72976								
Dup. ID (If a		U900									
outible time	·			-							
	ı										

Client: San Gabriel Basin Water Quality Authority Project No.: 2581-112-06 UND  Well Casing Diameter: 2" 4" 6" Other: 20 Well Casing Material: PVC SS Other:  Well Headspace: PID (ppm): FID (ppm):  Sampler: MUNT  Total Depth of Well (feet): 600 Reference Point: Seed Jelow Datum:  Depth to Water (feet): 221.03;  2" - 0.16  Minimum Put  277-677 4" - 0.65										
Well Headspace: PID (ppm): FID (ppm): FID (ppm): Datum: Datum: Datum: 27 - 0.16										
Sampler: MUNIZ  Total Depth of Well (feet): 600 Reference Point: Seed Jeb Datum:										
Total Depth of Well (feet): 600 Reference Point: Seed July Datum:										
Depth to Water (feet): 221.03,										
2" - 016										
PURGE METHOD: 20 " -16.31										
PURGE METHOD:  Submersible Pump  Bladder Pump  Hand Pump  Peristaltic Pump  Bailer:  SS  Disposable										
Pump Make/Model: Purge Equipment Decon'd? Y N										
Depth of Pump Intake (feet):  Purge/Decon Water Y N Container Type/ Containerized?  Volume?  2000 dlies										
Time Gallons (C) F) pH Conductivity Turbidity Other Observations/Comments										
1125 1000 — 110 30.0 — 1000 pp. green stuff on wo										
1130 24.3 6.15 810 15.0 - 1										
1/32 242 6.53 790 17.6 - que staft, whitswalin										
11 32 24.2 6.53 790 17.6 que stiff, whitewales 11 32 24.2 6.53 790 17.6 algal, open, whiteles										
1/37 24.4 6.62 790 8.3 - algar, Butche										
11/0 252 6.64 799 14.1										
L-\										
\\O ₁ A-										
SAMPLE COLLECTION METHOD: SAMPLE ANALYSES:										
Pump: Flow rate: 602   Method: Container Type/Vol. Preservative										
Bailer: Type: Other: Desc.:										
Sample ID: BPGW-1900029-070196										
Dup. 1D (If appl.): Eale Blank										
Sample Time: 1145										

environmental engineers, scientists, planners, & management consultants

Well No.: MUSELL Site: Baldwin Park Operable Unit Date: 3/26/96											
Client: San Gabriel Basin Water Quality Authority   Project No.: 2581-112-66-W-SAMP											
Well Casing	Well Casing Diameter: 2" 4" 6" Other: ~16" Well Casing Material: PVC SS Other:										
Well Headspace: PID (ppm): FID (ppm):											
Sampler: MUDOZ /SRI											
Total Depth of Well (feet): 600 (66) Reference Point: 27772 Tof of Datum:											
Depth to Water (feet): 222-24  2" - 0.16  Minimum Purg											
Water Column Height (feet): 377.76 (X) 4" - 0.65 Gal/feet = 3864.87 (X) 3 = 1594.61 Volume (Gallons)											
PURGE METHOD:  (?)  Submersible Pump  Bladder Pump  Hand Pump  Peristaltic Pump  Baller:  Teflon  SS  Disposable											
Pump Make	/Model:	Production	in well.				Purge Equipment Decon'c	15 A [] N []			
	ımp Intake (1	eet):	•	Purge/Dec	on Water Y nerized?		Container Type/ Bite				
Time	. Gallons	(C)/ F)	рН	Conductivity (mhos) cm)	Turbidity (NTUs)	Other	Observations/Comme	nts			
0856	~900	13.08	6.38	<i>8</i> ⋑ .	28.5	Clear	GEGSYNTEC EQUIP!	74 st			
0903	6300	18.0	7.01	837	8.34	Chan					
D9 D805	8300	13.7	6.94	8.38	4.1	Clear	WL= 225.11'	Top of soul			
09 18	71,300	18.9	6,96	B. 33	2.6	Chan					
0928	35,000	19.3	6.97	832	2.17	Clear	24121 Totaliz	en Cly			
D933	39,000	188	6.93	833	2.02	Char		Jan			
								REX 9			
Pa											
	,			·							
	**************************************		····················	•••••••••••••••••••••••••••••••••••••••	· · · · · · · · · · · · · · · · · · ·						
SAME	LE COLLEC	TION METHOD		Metho	od. T		ANALYSES: tainer Type/Vol.	Preservative			
Pump:	Flow ra	te: Buki		Radon	-	125m/Amb		NONE			
Baller: L Other: [	Type: Desc.:	2220									
Sample ID:	BP-CW-	1980 0591.	032696								
Dup. ID (If	Dup. ID (If appl.):										
Sample Tim	Sample Time: 0921										

environmental engineers, scientists, planners, & management consultants

INPRO	CDM environmental engineers, scientists planners, & management consultant
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Well No.:	Palm L	æiu	Site: Bal	duit- Duit- O			Date: 9-25	9,		
Well Casing Diameter: 2" 4" 6" Other: Well Casing Material: PVC SS Other:										
Total Depth of Well (feet): 699 Reference Point: Top & Sound today Datum:										
Depth to Water (feet): 2" - 0.16										
Water Column Height (feet): 582 (X) 4" - 0.65 Gal/feet = 7 493 (X) 3 = 78 477 Volume (Gallons)										
PURGE MET	HOD:	•		20-16.3	<u> </u>		ave.			
Submersible	Pump 4	Bladder Pi	-	Hand Pump	Peristal	tic Pump	PVC Teflon SS Disposable			
Pump Make	/Model:	Fres B	Dolente	à leel			Purge Equipment Dec	on'd? Y N		
Depth of Pu	ımp İntake (i	feet):	•	Purge/Dec	on Water Y [ inerized?	□ N □	Container Type/ Volume?	971-1524		
Start	pump	1313			•		70917600			
Time	. Gallons	Temp. (C / F)	Нq	Conductivity (umhos/cm)	Turbidity (NTUs)	Other	Observations/Com			
1313	500%	22	8.39	250	5.99	bubbles	~1000 pm	70913100		
1317	2700	. 20	8.37	270	4.23	ł,		709/6300		
1322		20	7.81	348	3.38	1)	wyafferment	70919300		
1327		20.0	7.79	370	3.34	1,		70924200		
1332		20.0	7.79	350	3.19	t,		70929200		
1337		50.0	7.80	362	2.81	١,				
1342		19.5	7.79	363	2.62	11		7093960		
1349		20.0	7.78	368	3.18	ì,		70941500		
_ ~ ~ ~ ~ ~ ~ ~ ~ ~										
			<del> </del>							
	Many of 6 1349  SAMPLE COLLECTION METHOD:  SAMPLE ANALYSES:									
Pump:		te: 424 -		Metho	od:		tainer Type/Vol.	Preservative		
Bailer:	Type:	10: "		8260	voc	36-40 v		17 CL		
Other:	Desc.:			300.0	) 100ch	2-25	Int poly	- Now		
Sample ID:	<del></del>	08000039								
Dup. ID (If a		1345								
Sumple Times .										

080000 39

MUNOS

Total Depth of Well (feet):
Depth to Water (feet):

Water Column Height (feet):

Depth of Pump Intake (feet):

Well No .:

Well Casing Diameter:

Well Headspace:

PURGE METHOD:

Submersible Pump

Pump Make/Model:

Site:

Production Will

San Gabriel Basin Water Quality Authority

PID (ppm):

Baldwin Park Operable Unit

2" - 0.16

4" - 0.65 6" - 1.47

20 - 16.31

Bladder Pump Hand Pump Peristaltic Pump

Other:

Project No.:

Time	. Gallons	Temp. (C F)	рН	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Commen	ts 70,975,300	
1405	(000	24.6	7-14	192	6,98	clan	Stert 1405,	·	
1406	2000	23-5	8,30	172	3.80	مفعل	no ody		
1408	4800	70.6	8.51	171	3.74	dear	bubble 76	0980100	
1+13	12500	23.6	7.64	388	2.50	dem	dear, No odor 70	87800	
14:18	17500	22.4	7.69	384	2.30	chear	Diev. Noodar 7	0,892,400	
14224	22400	71.8	7.71	3ፋጊ	2.08	Jen	bulghty Dean Neader 76	398,100	
14:30	24000	23,0	7.45	432	1.27	des	bealth -	,901,300	
14:40	37200						2	,912,500	
SAME	LE COLLEC	TION METHOD	<u>):</u>	Meth	od:		ANALYSES: ntainer Type/Vol.	Preservative	
Pump:	Flow ra	te:		Bozl		3-40ml		74CL	
Bailer: [	Type: Desc.:								
	RP-GW-C	800003	9-070994		en				
Sample ID:	and BP-GV	V-080000	398-0709	J>					
Sample Tim	מא מיני								
<del></del>		· · · · · · · · · · · · · · · · · · ·				,			
Mar			1	1011700	NO WE		E AND GAMBUI	VO FODI	
MONITORING WELL PURGE AND SAMPLING FORM  nvironmental engineers, scientists,									
nners, & r	anagement	consultant	<u></u>	· · · · · · · · · · · · · · · · · · ·				•	
				•					

7/9/96

Other:

Date:

SS

Minimum Purge 9415 (X) 3 = 28 245 44 (Gallons)

PVC Teflon

Disposable

Purge Equipment Decon'd? Y \( \simega \) N \( \simega \)
2 Baken tanks

Baller:

Container Type/ Volume?

PVC

2581-112-CG TY 64 MA

FID (ppm):

Well Casing Material:

Reference Point: Topof sand

Gal/feet

Purge/Decon Water Y N

Containerized?

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l ———	D 11	7	T					· · · · · · · · · · · · · · · · · · ·	
Well No.:	Paddy	(su	Site: B	aldwin Park Ope	erable Unit		Date: 9-2	4-96	
Client: San Gabriel Basin Water Quality Authority Project No.: 2581-112-CA TU-SAMP									
Well Casir	ng Diameter:	2″ 4'	6~	Other: 20	_	ing Material:		Other:	
Well Head		PID (ppm):				FID (ppm):			
Sampler:	エト	turioz							
•	th of Well (f Nater (feet):		,00 105	Reference 2" - 0.16	Point:	Spot see	dis Lesbe Datur	n:	
Water Colu	ımn Helght (1	feet): \(\frac{\gamma}{2}\)	195	x) 4" - 0.65 6" - 1.47	Gal/feet	8073.	15 (x) 3 = 24, 220	Minimum Purg Volume (Gallons)	
PURGE ME	THOD:	•		20 16.	31		•		
Submersibl		Bladder P	ump	Hand Pump [	Peristo	altic Pump 🔲	PVC Teflon SS Disposable		
Pump Make	:/Model:	1 Nooker	بالله ل	عالم			Purge Equipment Decor	1,q5 A □ N □	
·	ump Intake (			Purge/Dec . Conta	on Water Y linerized?	□ va	Container Type/ 10 Volume?		
•		Temp.		Conductivity	1				
Time	. Gallons	(C / F)	рΗ	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Comm	ents	
1401	1500	23.0	7.54	470	20.2	Slightly lund	~1520gpm		
1405	4000	22.5	7.48	980	7.43	elegibus	ble	50,878,000	
1403	12,000	22.0	7.47	492	8.31	71		50 988 oc	
1410	15,000	22.0	7.48	f80	6.52	٦,		B84,00	
	18,000	22.0	7.49	490	6.13	1)		887,00	
1414	21,000	22.0	7.8	490	3 .QD	1,		890,00	
1416	24,000	22	7.52	495	3.12	· ·		892,00	
SAMPI	E COLLECT	FION METHOD				SAMPLE AN	50891,2	20	
Pump:	Flow rat	e:		Metho	d:	Conto	niner Type/Vol.	Preservative	
Baller:	Type: Desc.:			350.0			UDAs	ba	
Sample ID-8	P-GW-0	1900031 -	092696			1-250 ml	Py	non	
Dup. ID (If a	op(.):				4				
Sample Time	143	50							
CDM									

Well No.:	PADM LI		Site: Bal	dwin Park Oper	able Unit		Date: 7/12	196			
Client: So	Client: San Gabriel Basin Water Quality Authority Project No.: 2581-112-CG										
Well Casing		2" 4"		Other:		g Material:	PVC SS O	ther:			
Well Headsp	oace: P	ID (ppm):				FID (ppm):					
Sampler:	TH	للمحر	· · · · · · · · · · · · · · · · · · ·								
Total Depth of Well (feet): 600 Reference Point:											
Water Colum	nn Helght (f	eef);	4940e (x	2" - 0.16 4" - 0.65 6" - 1.47	Gal/feet	<u>8,058</u>	x 3 - 2417	Minimum Purge Volume (Gallons)			
PURGE MET	THOD:			20 - 16	. આ		PVC				
Submersible	Pump	Bladder Po		Hand Pump	Perista	ltic Pump 🔲	Bailer: Teflon SS Disposable				
Pump Make	/Model:	Produ	ction u	Jelf.			Purge Equipment Deco	u,q5 A □ N □			
		feet):		Purge/Deco . Contai		<b>№</b> №	Container Type/ Tu Volume?	10 Boker Tanks			
Sarpun	p 5078		~ 5	081,115	3 3	· · · · · · · · · · · · · · · · · · ·	1				
Time	. Gallons	(C) F)	pН	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Comm	nents 1500gpm			
0944	~1,000	22.6	7.49	337	30./	Some	Pumpan Diry lig	Mbrown			
0946	5,000	21.6	7.55	499	69	bubbles + cliar	clear	~1000pm			
09 49	7,000	21.5	7.51	499	3.9	1)					
09 52	10,000	21.5	7.57	498	4.7	11					
09 54	12,000	21.4	7.57	499	3.4	11					
0956	14,000	21.3	7.59	498	23	<u> </u>					
0958	17,000	21.6	7.59	499	1.4	<u>ha</u>					
1000	19,000	21.4	7.60	499	1.1	13					
1004	22,00	طا2	7.63	498	1.3	· · · ·		. <b></b>			
								· — — — — — — — — — — — — — — — — — — —			
		· · · · · · · · · · · · · · · · · · ·									
Puna of C	5036	211-000					Pump of HOIC	YZ			
•		3 (6,000 TION METHO	٦.			SVINDE	ANAI YSES.				
			H.LAC	Meth	od:		ANALYSES: stainer Type/Vol.	Preservative			
Pump: Flow rate: 50 m W.68s Method: Container Type/Vol. Preservative Baller: Type: 821 3-40m1 VOAs HCL											
Other:	Desc.:			Radon		1-100,	nlamber.	none			
Sample ID:	316w01	90031-0	71296	WetChen	~	-11/po	<u> بلخ</u>				
Dop. ID (IT	Sample 10:8PGW-0190031-071296 Wetchen 1-11 poly  Day: 10 (17 applish 1010; 0800)  Sample Time BP-GN-01900031(1)-071296 Work 102 Woz 1-100ml poly										
Sample (Im	e#2	الارجاء ال	1 - 11276	LAUZIN	~~	1 100m	poly				

rts,

MONITORING WELL PURGE AND SAMPLING FORM

environmental engineers, scientists, planners, & management consultants

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			Γ					
Well No.VC	41 be <u>-41</u>	<u>Haises</u>	Site: Ba	ldwin Park Oper	able Unit		Date: 10	17/96
Client: S	ian Gabriel B	asin Water Ou	allty Author	rity Project	No.: 2581-1	12-CG		
Well Casin	g Diameter:	2" 4"	6~	Other:	Well Casin	ng Material:	PVC SS Of	her:
Well Heads	pace: P	ID (ppm):		***************************************		FID (ppm):		
Sampler:	RUNDS			·				
•	h of Well (fe /ater (feet):	et): <u>له د</u> رما		Reference i	Point:		Datum	
Water Colu	mn Height (fo	eet):	230	4" - 0 CE	Gal/feet	. 6899	13 (x) 3 = 20, 69	Minimum Pur Volume 7. (Gallons)
PURGE ME	THOD:	•		20 " - 16:	अ		PVC	
Submersible	e Pump 🔲	Bladder P		Hand Pump	Peristo	iltic Pump 🔲	Baller: Teflon SS Disposable	
Pump Make	:/Model:	redutin	L Wel	1		<del></del>	Purge Equipment Decon	.qs A □ N □
Ħ	cerrotti	1500 pm		Purge/Dec . Contal	on Water Y nerized?	_ NO	Container Type/ Wax	là syster
Time	. Gallons	Temp. (C / F)	pН	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Comm	ents
1015	1,500	16.7	8.0	268 .	2.5	deer	land of bulks	2
1021		16,2	7.88	270	3.7	clean		•
1023	4	lbrz	7.86	280	2.3	cher,		
1025	22,500	16.2	7.86	285	3.4	dia		
								.,
						<del> </del>		
			<b></b>			<b> </b>		
SAM	PLE COLLEC	TION METHO	<u></u>			SAMPLE	ANALYSES:	
Pump:	₹ Flow ra	ite: Voisulf	<u>ر 10 يو</u>		Method:		Container Type/Vol.	
Bailer: [	Type:			8240		Gond Like H		Hec-
_		019000 ZB-	101791.					
Sample ID: Dup. ID (If	•							
Sample Tin	1 ~~	25				\		
	_					•		· · · · · · · · · · · · · · · · · · ·
7 F 7 F 1							· ·	

environmental engineers, scientists, planners, & management consultants

Well No .: VCW Buset & laine Site	Baldwin Park Oper	able Unit		Date: 4119	16			
Client: San Gabriel Basin Water Quality Authority Project No.: 2581-112-CG								
Well Casing Diameter: 2" 4"	6" Other:	Well Casing	g Material:	PVC SS Oth	er:			
Well Headspace: PID (ppm):			FID (ppm):	<del></del>				
Sampler: MUNOZ	72)			***				
Total Depth of Well (feet): 600 Reference Point: Grown Surface Datum:								
Depth to Water (feet): (177)								
2" - 0.16  Minimum Purg								
6" - 1.47								
PURGE METHOD: PVC								
Submersible Pump								
Disposable								
Pump Make/Model: Purge Equipment Decon'd? Y N								
Depth of Pump Intake (feet):	Purge/Dec Conta	on Water Yl Inerized?	N ·	Container Type/ Volume?				
Totalyer 12728300								
Jemp.	pH (amhos/cm)	Turbidity (NTUs)	Other	Observations/Comme	nts			
1120 7500 18 7	,19 258	0.79	bubbles					
1127 18000 16.5	1.16 250	2.1	ιι					
1179 21000 16.3 7.	14 250	1 4	ч	Grel: 1276900				
		· · · · · ·			·			
<del></del>								
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		<del></del> _						
<del>\</del>								
<del> </del>								
<del> \-  </del>								
<del> </del>								
<u> </u>								
			<b></b>					
SAMPLE COLLECTION METHOD:	Meth			ANALYSES: ntainer Type/Vol. Preserva				
Pump: Flow rate: (C) Bailer: Type:	8021		3 x 40 b					
Other: Desc.:	GM, TDS,	GM, TDS, TSS FEETH 2×11 poly						
Sample ID: BP-6W-0190028-	-04194 NO2+ NO3	Bigarboret	<b>4</b>	· · · · · · · · · · · · · · · · · · ·				
Dup. ID (If appl.): 1135	tother.	(See CEC)	2740 4	7 WAYS				
Sample Time: 433	Lipon			1 // 1/2	Non_			

				<del></del>				
Well No.: LAUTE S			Site: Ba	ldwin Park Oper	able Unit		Date: 4/11/96	
Client: S	an Gabriel B	asin Water Ou	ality Author	rity Project	No.: 2581-1	12-CG		
Well Casing	Diameter:	2" 4"	6"	Other:	Well Casin	g Material:	PVC SS Other:	
Well Heads		ID (ppm):				FID (ppm):		
Sampler:	MUNDE				···			
Total Depti	h of Well (fe	et):(	00	Reference I	Point:		Datum:	
	ater (feet):		100					
Water Colur	mn Height (fo	eet):	<u>500</u> 0	6" - 1.47	_	8155	(X) 3 =	finimum Pur Volume (Gallons)
PURGE MET	THOD:	•	,	~ <u>70" - 16,</u>	31		PVC 🗆	
Submersible	e Pump	Bladder P	ump 🗌	Hand Pump	Perista	iltic Pump 🔲	Baller: SS Disposable	
Pump Make/Model: Purge Equipment Decon'd? Y							N	
Depth of Pump Intake (feet): Purge/Decon Water Y N Container Type/								
Purge/Decon Water Y N Container Type/  ONMP ON AT 1157 Containerized? Volume?								
Time	. Gallons	Temp.	рH	Conductivity (umhos) cm)	Turbidity (NTUs)	Other	Observations/Comments	
1201	4000	21.4	7.18	590	5.90	bubbles	~1000gpm	<del></del>
1204	7000	19.6	7.12	600	10.90	bubbles	084041000	
120\$	10,000	. 19.4	7.11	598	4,40		084043000	
1209	12,000	19.2	7.12	578	4.83	u	084045 ²⁰⁰	
121863	15,000	19.3	7.14	578	3.90	L _I	084049000	
1216	18,000	19.4	7.13	598	2.2	<u>-</u>	034051°00	
1219	21,000	19.8	7.13	598	1.8	iı	084055°°°	
1222	24000	19.4	7.15	598	2,6	U	084057000	
			l			<u>-</u>		
10						<b> </b>		
<del>-</del>	7			·		<b> </b>		
•			<b>+</b>	<del> </del>	<del> </del>	-		
<del></del>	<del> </del>		1			1		
<del>_</del>						<u> </u>		
SAME	PLE COLLEC	TION METHO	<u> </u>				ANALYSES:	
SAMF Pump:		TION METHOL		Meth.	od:	Con	tainer Type/Vol. F	reservative?
Pump:   Baller:	Flow ro			8021		Con 3 K W	tainer Type/Vol. F	reservative
Pump: Baller: Other:	Flow ro	te: 55 sept	041)91.	8021 GH, TDS:	TSS, Hetal	3 X X 3 X X 2 X	tainer Type/Vol. F	reservative
Pump: Baller: Other: Sample ID: Dup. ID (If	Flow ro	1000000	041)91.	8021	TSS, Hetal	2 X X X X X X X X X X X X X X X X X X X	tainer Type/Vol. F	Preservative

environmental engineers, scientists, planners, & management consultants

0 - 0 - 0										
Well No.: BIG DALTON Site: Ba	idwin Park Operal	ble Unit		Date: 11/4/9/15						
Client: San Gabriel Basin Water Quality Author	Ity Project No	o.: <del>258</del> 1=11	2581	-11642 -112 W. DHS						
Well Casing Diameter: 2" 4" 6"	Otheri		g Material:	PVC SS Other:						
Well Headspace: PID (ppm):			FID (ppm):							
Sampler: I. MUNDZ										
Total Depth of Well (feet):	Reference Po	olot:		Datum:						
Depth to Water (feet):	2" - 0.16		Λ.							
Water Column Height (feet): (>	4" - 0.65	Gal/feet	Daly 15	Min (X) 3 *	ilmum Purge Volume (Gallons)					
PURGE METHOD:				••••						
Submersible Pump Bladder Pump Hand Pump Peristaltic Pump Bailer: Teflon SS Disposable										
Pump Make/Model: Production Will. Purge Equipment Decon'd? Y N										
Depth of Pump Intake (feet): Purge/Decon Water Y N Container Type/ Containerized? Volume?										
Pumpon: 1012 Pumpoff		•								
Time . Gallons (G/F) pH	Conductivity (unhos/cm)	Turbidity (NTUs)	Other	Observations/Comments						
1027 3	438	K-8	معل							
1029 25.6 7.53	490	5.D	clia		. 7					
	- <b></b>									
<del>-</del>										
				<i>**</i>						
<u> </u>										
					1					
SAMPLE COLLECTION METHOD:			SAMPLE A							
Pump: Plaw rate:	NPS3 HL5	31			eservative					
Bailer: Type:	SERVE		Hultiple	<u> Caraci</u>						
Other: Desc.:	ASBTEH, L									
Sample ID: BP-GW-01900035-110796	PAD 43									
Dup. 10 (If appl.): BUN 10, FDB -DISCA  Sample Time: 1025 MLSZS, PESTSON ENDOTHAL TCD-DW INTIBO										
Sample Time: 1025	11120116	1,2000	EN NO. NAC	1010 M 11150						
			•							

**CDM**environmental engineers, scientists, planners, & management consultants

Well No.:	BIGDI	MION	Site: Bal	dwin Park Oper	able Unit		Date: 9-2	23-96			
Client: S	an Gabriel B	asin Water Ou	ality Authori	ty Project I	No.: 2581-112	2-66-T4-SX	u4				
Well Casing	Diameter:	2" 4"	6~ (	Other: 20"	Well Casing	Material:	PVC SS C	Other:			
Well Heads		(D (ppm):				FID (ppm):					
Sampler:	Mur	SVS					·				
Total Death	of Well (fe	et): 60	יני	Deference	and To	and on d	Litube Datu				
	ater (feet):		3.0	Kererence i	-oint: <u>14</u>	S OI Store	Dara	m:			
		ir.	-1-1	2" - 0.16 4" - 0.65		-1-7-AC K	7	Minimum Purge			
Water Colu	nn Height (f	eet): T	<u>77                                   </u>	6" - 1.47	Gal/feet	<u> 1177.5</u>	$\frac{7}{2}$ (x) 3 = $\frac{23}{3}$	(Gallons)			
PURGE ME	THOD:	•		70 - 63	<u>.</u>		PVC				
Submersible Pump Bladder Pump Hand Pump Peristaltic Pump Bailer: SS Disposable											
Pump Make/Model: Production luct Purge Equipment Decon'd? Y N											
Targe Equipment Decond. 7											
obitation 2541											
Punp	@ 094				<u>:</u>						
Time	. Gallons	Temp.	рН	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Com	ments			
09 46	7400	21.0	7.78	460	39.7	cloudy	Total 933	40,000 TOUJA			
0951				46			Punp sheet of	1/600			
0957	~100	21.0	7.79	469	7.44	che	Poster+				
1000		21.0	7.69	465	C4 22	clar	93271 000	1,852,gm			
1003		21.5	7,65	470	5.39	clear	93375,00	water is diverted			
1005		21.0	7.69	470	6.00	dia biblists	93378,000 tol	3) ize chichen va			
1007		22.0	7.66	472	<i>675</i>	Jun	93388				
		l									
	L	l	L		<u></u>		End 382 9	7338 3383			
SAM	PLE COLLEC	TION METHO				SAMPLE /	ANALYSES:				
Pump:	] Flow ro	ate: Paul	<u>ن الڅو</u> د	Methodol On .	od:		tainer Type/Val.	Preservative			
Baller: [ Other: [	Type:			322.0		3-40ml 1 1-250ml		HCL neve			
		-01900038	092496 3-867696			- 250 m					
Sample ID: Dup. ID (If	appl.):										
Sample Tin	}	020									
	_					•					

environmental engineers, scientists, planners, & management consultants

Well No.: £	BALT	<u>ಸ</u>	Site: Bale	dwin Park Oper	able Unit		Date: 6	26/56		
Client: S	an Gabriel B	asin Water Ou	ality Authori	ty Project I	No.: 2581-	112-26-TY- SA	MP			
Well Casing	Dlameter:	2" 4"	6″ (	Other: 20	Well Casi	ng Material:	PVC SS	Other:		
Well Heads	pace: P	ID (ppm):	-		-	FID (ppm):	-			
Sampler:	Muroz									
Total Depti	n of Well (fe		00	Reference F	Point: Top	s of Soundi	strbe 1	Oatum:		
Depth to W	ater (feet):	<u>ا</u>	27.15	2" - 0.16						
Water Colum	nn Height (f	eet): 47 Ny ² (47)	77.85 (X		Gal/feet	<u> 7,797</u>	(x) 3 = 2 <u>.3</u>	Minimum Purge Volume (Gallons)		
PURGE ME	-	77.72 (47/ v=10	, 03)		•		BVC			
Submersible Pump Bladder Pump Hand Pump Peristaltic Pump Bailer: SS Disposable										
Pump Make	/Model:	Production	in beell				•	Decon'd? Y N		
Donath of D	uma lataka (	feet): wst	contain	n . m		<b>№</b> и□		<b>A</b> • • •		
Depth of F	ump intake t	reen:	•	Purge/Dece Contai	nerized?	. "	Volume?	Buted. 33 gellow		
	·				•		·	· · · · · · · · · · · · · · · · · · ·		
Time	Gallons	CC/F)	рН	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/	Comments		
(343		7 <u>5.7</u>	7.10	S30 .	U.6	1000 golf it 40.90 sec	deartole	pt brown; buth		
1347	492,000	25.Y	6.97	క్రాబ	7.2	A	clear, nob	ubbles :		
1360	500,000	25.0	6.91	500	K.7	1000 pts	clear, son			
1352	304,00	24.90	6,90	Six	2.7		clear, som	bubbles		
1354	SOL, DO	24.So	6,91	Sw	۲, ₉		ale you	bulbhe		
<b>\</b>										
1										
17										
\-/			<b></b>							
<del> </del>	<u> </u>									
	<del> </del>			·						
	92509	393	L				,			
SAM	• -	TION METHOL	):			SAMPLE A	ANALYSES:			
<u> </u>	✓ Flow ro	16.1	<u>.</u> 24 63540	Meth	od:	Con	tainer Type/Vol.	Preservative		
Pump: [ Bailer: [	Type:			FOSI		63-40 ml		hcc		
Other: [	Desc.:			340		2-100ml	pour	none		
Sample ID:	BP-6	W-019000	35-262696	ļ						
Dup. ID (If Sample Tin		5W-019000	- ma(r) ma	,						
Jample 11h										
CDW			_							

environmental engineers, scientists, planners, & management consultants

02

Client: San Gabriel Basin Water Quality Authority

2″

PID (ppm):

Submersible Pump Bladder Pump

Production

Well No.:

Well Casing Diameter:

Sampler: MUDE

Depth to Water (feet):

PURGE METHOD:

Pump Make/Model:

Total Depth of Well (feet):

Water Column Height (feet):

Well Headspace:

Site:

Baldwin Park Operable Unit

Other:

Project No.:

Reference Point: _

4" - 0.65

6" - 1.47

shootlen with sounder. Dely wells.

Gal/feet = _

Hand Pump Peristaltic Pump

2581-112-66 - 12.TY.

FID (opm): ~

PVC

_ (X) 3 ≈

Bailer:

PVC

Disposable

Purge Equipment Decon'd? Y N

Well Casing Material:

Depth of Pump Intake (feet):			Purge/Deco	on Water Y	□и□	Container Type/ Dischary Suplan Volume? is not are still				
Pero run @00	350	~7000			•	volunier 1)s c	on air strippi-			
4 7 3	emp.	рΗ	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Comme	nts			
0907 34000	4.0	7.38	428.	4.82	clear	286646,000	1916m			
0918 34,000 7	21.8	7.15	420	B-3)	cha		·			
<b> </b>										
SAMPLE COLLECTION	METHOO:				SAMPLE A	NALYSES:				
Pump: Plaw rate:	<del></del>		Metho 82LC		Container Type/Vol.		Preservative			
Baller: Type: Other: Desc.:			300	<u></u>	3-40ml volas 1-250ml pohi		19CL			
Sample ID: 80 GW-019 01	460 -10	1196				ul poký				
Oun. ID (If appl.):										
Sample Time: 0730										
CDN MONITORING WELL PURGE AND SAMPLING FORM planners, & management consultants										
	_		·	, <u>,</u>						

Date: 10/11/96

Other:

Datum:

Minimum Purge Valume (Gallons)

SS

Well No.: MWS-DDZ Site: Balo	iwin Park Opera	ible Unit		Date: 04/10)	96					
Client: San Gabriel Basin Water Quality Authori	ty Project N	lo.: 2581-11	2-CG							
Well Casing Diameter: 2" 4" 6" C	other:	Well Casin	g Material:	PVC SS Other	·					
Well Headspace: PID (ppm):			FID (ppm):							
Sampler: MIXWZ_										
Total Depth of Well (feet): $947$ Depth to Water (feet): $\sim 80$	Reference P	oint:		Datum: _						
Depth to Water (feet):	2" ~ 0.16		. 1/7 4.00	4 8	Minimum Purge					
Water Column Height (feet): (X)	6" - 1.47		<u>~14,748.</u>	42 (X) 3 = 42,445.	27 (Gallons)					
PURGE METHOD:	<u>~20" - 16</u>	31		PVC						
Submersible Pump										
Pump Make/Model: Production (Le	<u>ol</u>			Purge Equipment Decon'd'	Y 🗌 N 🗌					
Depth of Pump Intoke (feet):  START TIME 4 DAISO SPM  NZDOSPM	Purge/Decc Contal	on Water Y   nerized?		Container Type/ Volume?						
Time Gallons (C) F) pH	Conductivity (umho) /cm)	Turbidity (NTUs)	Other	Observations/Commen	ts					
1100   19.9 7.44	418	1.64	ne bibbb							
11012 20.2 7.26	419	1.28	v							
1103 20.5 7.23	420	1.17	· ·	109315,000 qullo	>					
1104 8,000 20.4 7.24	420	0.40	13	109315,000 gallo	لتعر					
Son sampling but				0						
purp wereing										
The Hiday be	bu									
<del></del>										
<del> </del>										
				·						
SAMPLE COLLECTION METHOD:			SAMPLE A	NAI YSES:						
S /m /	Metho	od:	Con	tainer Type/Vol.	Preservative					
Pump: Flow rate: 3022 321 707	8021			ml LOAs	HC1_					
Other: Desc.:	General num		2×11	<u>₽</u> Ψ	ron					
Sample ID: BP-GW-01901460-04109C	mutsb; nit		·	· 	-					
Dup. ID (If appl.): ///D	TBS, TSS Redon	7 VALIOV2	WIXIZE	amba 2x40n/W	f none					
Sample Time: 7(10	I don't		1//123	THE THE PARTY OF						

environmental engineers, scientists, planners, & management consultants

	·			
		1		
	.			·
- 4LMM				Preservative
	8260			HCC
•		1-520 mg bx	¥	none
01116			·	
59F-101192				
	- 4LMM	300	3x40x1 B260 3x40x1 U	4011 Method: Container Type/Vol.  3x4011 B260 3x4011 U013  320 1-250 ml poly

03

MUDDE

Client: San Gabriel Basin Water Quality Authority

PID (ppm):

Well No.:

Sampler:

Well Casing Diameter:

Total Depth of Well (feet):

Water Column Height (feet):

Depth to Water (feet):

Submersible Pump

Depth of Pump Intake (feet):

. Gallons

99,000

PURGE METHOD:

Pump Make/Model:

Time

0935

Well Headspace:

Site:

400

Bladder Pump

70.5

Production well

10/11/96

рΗ

7.49

Baldwin Park Operable Unit

Other:

(X)

Project No.:

Reference Point:

Gal/feet

Turbidity (NTUs)

6.02

2" - 0.16

4" - 0.65

Hand Pump

Conductivity

(µmhos/cm)

Purge/Decon Water . Containerized?

2581-112-CG

Well Casing Material:

FID (ppm):

Peristaltic Pump

Y . N .

Other

Date: 10/11/96

Other:

Datum:

Minimum Purge

Volume

(Gallons)

SS

PVC

(X) 3

Baller:

Container Type/ Volume?

~2200 ggv

**PVC** Teflon

Disposable

Observations/Comments

Purge Equipment Decon'd? Y N

Well No.:	NW5-U	3	Site: Bale	dwin Park Opera	able Unit		Date: 4/1	0/96		
Client: Se	an Gabriel Bo	asin Water Ou	ality Authori	ty Project N	Vo.: 2581-11	12-CG - SAMP				
Well Casing	Diameter:	2" 4"	6″ (	Otheri 2011		g Material:	PVC SS	Other:		
Well Heads		ID (ppm):				FID (ppm):				
Sampler:	Mulus	し								
•	of Well (fe		30	Reference F	Point:		Datu	um:		
Depth to W	ater (feet):	<u>~~</u>		2" - 0.16				_ Minimum Purge		
Water Column Height (feet): 320 (X) 4" - 0.65 Gal/feet = 5219 (X) 3 = 15,658 (Gallons)										
PURGE METHOD:  PVC PVC										
Submersible Pump Bladder Pump Hand Pump Peristaltic Pump Bailer: SS Disposable										
Pump Make	/Model:						Purge Equipment Dec	on'd? Y N		
Denth of P	ump Intake (1	feet):		Purge/Deco	on Water Y	□ N □	Container Type/			
Depin of 1	START PUL	48@ 110	01/17 40	19 Contai	nerized?	<u>.</u>	Container Type/ Volume? -			
	· · · · · · · · · · · · · · · · · · ·				<del></del>	· · · · · · · · · · · · · · · · · · ·				
Time	. Gallons	Temp.	рН	Conductivity (umhos/cm)	Turbidity (NTUs)	Other	Observations/Com	nments		
1152	130,000	20.4	7.49	440	6.2Z	clear	~ 2500 pm			
1154	135,000	20.2	7.49	431	6.53	chai/bubb	~ 2500 pm	· · · · · · · · · · · · · · · · · · ·		
1156	136,000	20.2	7.49	4.32	4.79	y				
\										
<u> </u>										
\Q	,									
<del> </del>	<b>*</b>									
			<del> </del>							
} <del>\</del> -				<u>.</u>						
L		<u> </u>	<u> </u>			1				
SAME	PLE COLLEC	TION METHO	D <u>:</u>			SAMPLE A	NALYSES:			
Pump:	Flow ra	Ho	uper loans	Metho	od:		tainer Type/Vol.	Preservative		
Baller:	Type:		V	8021	<u> </u>	3 x 40ml 2 x 11	VCO15	HCL .		
Other:		1314107 @	Ca nume	OH we	ATSS MA	&&\! _	- pug	yore		
Sample ID:	and BAGU	2-019028	<u>-&gt; 7-041</u> 070 359(F)-041	496	الدارية درس					
Sample Tin		ZOD		Radu		2x yom	1 WA'S	none		

Well No.: LPVWDDY	Site: Baldwin Park Oper			Date: 10/11/9	ils					
Client: San Gabriel Basin Water Oua	allty Authority Project	No.: 2581-H	12- WY- SAY <del>2-66</del>	1p						
Well Casing Diameter: 2" 4"	6" Other: 12"	Well Casin	g Material:	PVC SS Other	r:					
Well Headspace: PID (ppm):			FID (ppm):							
Sampler: MULDZ										
Total Depth of Well (feet): 79	Reference	Point:	qs-	Datum: _						
Depth to Water (feet):	<u>3o</u>		9							
2"-0.16 Pup wing for 2011 Minimum Purge Water Column Height (feet): 63 (X) 4"-0.65 Gal/feet = 3,892 (X) 3 = 11675.43 (Gallons)										
PURGE METHOD: $\frac{12^{\prime\prime}}{2}$ " - $\frac{5.87}{2}$										
Submersible Pump Bladder Pump Hand Pump Peristaltic Pump Bailer: SS										
Pump Make/Model: Perduti	will,	······································		Purge Equipment Decon'd?	Y 🗌 N 🗍					
Depth of Pump Intake (feet): Purge/Decon Water Y N Container Type/ Containerized? Volume?										
Start pump On 0930	1 2	<u>;</u>								
Time Gallons (C / F)	pH (umhos/cm)	Turbidity (NTUs)	Other	Observations/Comment	is					
094051 10,500 71.0	7.62 850.	6.05	diac	Boogen 79,0220	0,000 99110					
D9 5,83 11,500 20.9	7.53 448	4.28	dia, .	<del>79, 022</del>	3,000. On					
0957 12,500 21.3	7.47 449	3.18	حلىص	79,02	23,000					
1000 14,000 ZI.3	7.45 449	3.11	حلعصر	79, 2	25,000					
1005 16,500 71.1	7.435 449	3.19	clear	79.2	26,00					
1506 -18,000 71.2	7.47 450	3.39	clear	79,0	27,000					
				— — — — — — — — — — — — — — — — — — —						
<u> </u>		! <u></u>		· · · · · · · · · · · · · · · · · · ·						
SAMPLE COLLECTION METHOD				NALYSES:						
Pump: Flow rate: (252 per	40M B260	od:		tainer Type/Vol.  NU UAS	Preservative HCL					
Bailer: Type: Other: Desc.:	300		~~~-;~~~	50 of pole	min.					
Sample ID: BP-0800062-10119	16				[]					
Dup. ID (If appl.): \$1-6800062 K-	101196				<b> </b>					
Sample Time: 100 108	<u> </u>									

Well No.:	LPV WE	-04	Site: Bo	ldwin Park Opera	able Unit		Date: 4 10	126		
Client: So	on Gabriel B	asın Water Qu	ality Author	rity Project N	No.: 2581-11	2-CG				
Well Casing	Diameter:	2" 4"	6″	Other: 23	Well Casin	g Material:	PVC SS O	ther:		
Well Headsp	oace: P	ID (ppm):				FID (ppm):				
Sampler:						··	<del> </del>			
Total Depth	of Well (fe	et): 7	43	Reference F	Point:		Datur	M:		
Depth to W		رمية	<b>₹</b> 0							
Water Colum	nn Height (f	eet): <u></u>	6 <u>3</u> 0	2" - 0.16 4" - 0.65 6" - 1.47	Gal/feet	3,892	(X) 3 = <u>11,47</u>	Minimum Purg Volume (Gallons)		
PURGE METHOD: PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC   PVC										
Submersible Pump Bladder Pump Hand Pump Peristaltic Pump Baller: SS Disposable										
Pump Make.	/Model:	Produl	تقمرلاه	ell			Purge Equipment Deco	n'd? Y 🔲 N 🗍		
Depth of Pa	ump Intake ( START PU	feet): MO 105	<del>30 04</del> ]1	Purge/Deco 0/96 Contai	on Water Y   nerized?	□ N□	Container Type/ Volume? ·			
Time	. Gallons	Temp.	рH	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Comm	ments		
1128	19,000	20.5	7.41	440 ·	3.08	مصفك	786496000	500 apm		
1132	21,000	20.2	7.47	438	3.20	كافعات	786498			
1134	22,000	20.2	757	43B	3.78	lean	786499°			
\										
								ے ویے بادہ کیا کہ کار ایس بہتر بنید کے بہتر بنید		
<del>-</del>										
				<del> </del>						
			<b> </b>							
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<del> </del>		<del> </del>	<b> </b>	<u>-</u>						
L	l	<u> </u>	L		L	<u>L</u>	1			
SAME	LE COLLEC	TION METHO	<u>):</u>				ANALYSES:			
Pump:	☐ Flow ro	ite: <u>325ec</u>	100 mil	Meth	od:		tainer Type/Vol.	Preservative HC		
Bailer:	Type:			8021 GH- n-de	els, niteda	3×40ml 2×12	NOV,2	none		
-		 W-0300°	26.62	+ nitrite	- 1					
Sample ID: Dup. ID (if	anni.lt	V	~ O/L_	Anion						
Sample Tim		11/10		Radon		2 ×40 ~	none			

environmental engineers, scientists, planners, & management consultants

Well No.: BC- Site: Bo	dwin Park Oper	able Unit		Date: )(	5196					
Client: San Gabriel Basin Water Quality Author	ity Project I	No.: 2581-1	11158 - 11	Z.TY. DHS						
Well Casing Diameter: 2" 4" 6"	Other:	Well Casin	g Material:	PVC SS	Other:					
Well Headspace: PID (ppm):			FID (ppm):							
Sampler: MUNTZ			·							
Total Depth of Well (feet): 506	Reference F	Point:		D	atum:					
Depth to Water (feet):	2" - 0.16									
Water Column Height (feet):	4" - 0 65	Gal/feet	*	(X) 3 =	Minimum Purge Volume (Gallons)					
PURGE METHOD: _ " (UN KNOWN)										
Submersible Pump Bladder Pump Hand Pump Peristaltic Pump Bailer: SS										
Pump Make/Model: Production well Purge Equipment Decon'd? Y N										
Depth of Pump Intake (feet): Purge/Decon Water Y N Container Type/ Containerized? Volume?										
Purpon que 200 AM T	ida	:								
Time . Gallons (C / F) pH	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/C	omments					
0928 - 33.72 7.56	490	3.30	clear be	is .						
			<u> </u>							
SAMPLE COLLECTION METHOD:	Metho			ANALYSES:	Preservative					
Pump: Flow rate:  Bailer: Type:	Pump: Flow rate:									
Other: Desc.:	Title 22	? Smpli		gne book 2 85.						
Sample ID: 68-6W-71903096-1105%			page	<u>85.</u>						
Dup. ID (If appl.):										
Sample Times			•							

environmental engineers, scientists, planners, & management consultants

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HUNDZ

Client: San Gabriel Basin Water Quality Authority

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PID (ppm):

Well No.:

Sampler:

Well Casing Diameter:

Total Depth of Well (feet):

Water Column Height (feet):

Depth to Water (feet):

Submersible Pump

PURGE METHOD:

Well Headspace:

Site:

506

Bladder Pump 🔲

Baldwin Park Operable Unit

Other:

Project No.:

Reference Point:

Gal/feet

2" - 0.16

4" - 0.65

Hand Pump

2581-112-CO TY-SAMP

FID (ppm):

Peristaltic Pump

PVC

(X) 3

Baller:

PVC Teflon

Disposable

Well Casing Material:

Pump Make	/Model:	1/100	welley h	eic		<del></del>	Purge Equipment Decon'd'	Y 🔲 N 🔲		
_	ump Intake (	.• •		Purge/Deco . Contai	on Water Y [ nerized?	N	Container Type/ Volume?	4\		
Keny	or @	0900								
Time	. Gallons	Temp. (C / F)	рH	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Commen	ts		
0925	62,500	20.0	7.83	530	5.53	clear	som beble &	2,500 gpm		
0929	72,500	20,0	7.53	<u>545</u>	3-5 Z	L)	som bubble			
					·					
	<u> </u>		<u> </u>							
SAME	PLE COLLEC	TION METHO	<u>D:</u>			SAMPLE	ANALYSES:			
. `	-, <u>-</u> ,	ite: 40 ml pu	. 1700.	Meth	od:	Cor	ntainer Type/Vol.	Preservative		
Pump:	Type:	re: 19 1 pa	5 1 ,300	8021		3 140,	1 WAS	124		
Other:	Desc.:	-		20		1-520	poly	na		
Sample ID:	BP-GW-71	103073-10	0896				. )			
Oup. ID (If	appl.):									
Sample Tim	ne:(	930					-			
CDM MONITORING WELL PURGE AND SAMPLING FORM Invironmental engineers, scientists, Idanners, & management consultants										
					.*					

Date: 10/8/96

Other:

Datum:

Minimum Purge Volume __ (Gallons)

SS

Well No.: MA	15.4C 115	<u> </u>	Site: Bald	lwin Park Opera				2/96			
Client: San	Gabriel Bo	asin Water Qu	ality Authorit	y Project N	lo.: 2581-11	112.	TY.DHC				
Well Casing D	lameter:	2″ 4″	6 <b>"</b> 0	ther:	Well Casing	Material:	PVC SS	Other:			
Well Headspac	e: Pl	D (ppm):				FID (ppm):					
Sampler:	Mowo	<b>Z</b> _				······································	· · · · · · · · · · · · · · · · · · ·				
Total Depth o		et): <u>5</u>	<del>6</del> 6	Reference F	Point:	poodsuf	ascDo	itum:			
Depth to Wate	er (teet):	_ <u></u>	in p	2" - 0.16				Minimum Purge			
Water Column	Height (fe	eet): <u>40</u>	<u>9</u> (x)	4" - 0.65 6" - 1.47	Gal/feet	*	(X) 3 =	Volume (Gallons)			
PURGE METHOD: PVC											
Submersible Pump Bladder Pump Hand Pump Peristaltic Pump Baller: SS Disposable											
Pump Make/M	lodel:					<del></del>	Purge Equipment D	econ'd? Y N			
Depth of Pum	IOTE:	feet):		Purge/Deco Contal 3	on Water Y [ nerized?		Container Type/ . Volume?				
Time	Gallons	(C) F)	рН	Conductivity (umhos/cm)	Turbidity (NTUs)	Other	Observations/Co				
0944 7	14,400	21.0	7.55	480	78.7.13		105/204- Cunif	~2400gpm			
	3,600	21.0	7.5	490	5.13		72072	<del></del>			
	3,200	20.5	7.59	490	5.85	Bobbles les	72088				
09 9503 1	20,000	20.3	7.63	490	5.34		72107				
1004	29.400	20.0	7.65	490	4.62		72.114				
	27200		7.67	495	4.96		72122				
le.											
7											
		- — — — — — — — — — — — — — — — — — — —									
			I		1	J	L				
SAMPLI	E COLLEC	TION METHOL	<u>):</u>				ANALYSES:				
Pump:	Flow ra	te: looml	i 32see	Metho BOZ	od:	273 LDA	tainer Type/Vol.	Preservative NCL			
Bailer:	Type: Desc.:			Gornal	Mineral	7poly		Vine			
		- 71903093	3~U+0296	Rendu		725 m		vone			
Sample ID: Dup. ID (If ap	pl.): BP-61	w-719030°			Csy.						
Sample Time:		ોહિ		h.							

environmental engineers, scientists, planners, & management consultants

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Well No.:	B6D		Site: Bal	dwin Park Oper	able Unit		Date: 11/5/90	
Client:	San Gabriel B	asin Water Ou	ality Author	Ity Project	No.: 2581-	11658-112	.TY. DHS	
Well Casin	g Dlameter:	2" 4"	6~	Other:	Well Casin	g Material:	PVC SS Other	's
Well Head	space: P	'ID (ppm):	<del></del>			FID (ppm):		
Sampler:		SCHUM						
Total Dep	th of Well (fe	et): 1,0	78	Reference	Point:		Datum: _	
•	Vater (feet):						Daram: _	<del>-</del>
Water Colu	ımn Helght (f	eet):	(x	2" - 0.16 4" - 0.65 6" - 1.47	Gal/feet	=	(X) 3 =	Minimum Pu Volume (Gallons)
PURGE ME	THOD:	•			_	•	5).p	
Submersibl	e Pump 🔲	Bladder P		Hand Pump	Peristo	itte Pump 🔲	PVC Teflon  Bailer: SS Disposable	
Pump Mak	e/Model:	Kisderel	ion like	e			Purge Equipment Decon'd?	Y 🗌 N
Depth of F	Pump Intake (	(feet):	•	Conta	on Water Y Inerized?	□ nD	Container Type/ Volume?	
thenp	ming		020041		<u> </u>	<del></del>	<u> </u>	
Time	. Gallons	Temp. (C / F)	pН	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Comment	s
[03		21.5	343	399.	25	clier	`	
	T							
								. — +4 +4
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						<del> </del>		
			<u> </u>			.l	<u> </u>	
SAM	PLE COLLEC	TION METHO	<u>):</u>			SAMPLE	ANALYSES:	
Pump: [	Flow ro	ıte:		Meth		Cor	ntainer Type/Vol.	Preservative
Bailer: [ Other: [	Type: Desc.:							
Samale ID-	138-61U-7	8000078-	110556					
Dup. ID (If	-		<del></del>					
Sample Tir		7015/00	Ü	1	1			1

environmental engineers, scientists, planners, & management consultants

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Well No.:	86P		Site: Bal	dwin Park Oper	able Unit		Date: 10/08	196
Client:	San Gabriel B	asin Water Ou	ality Authori	ity Project i	No.: 2581-	112-CG	•	
Well Casin	g Diameter:	2" 4"	6~ (	Other:	Well Casi	ng Material:	PVC SS Off	ner:
Well Head	space: P	'ID (ppm):		¬,	,	FID (ppm):		
	MUUOZ			· · · · · · · · · · · · · · · · · · ·		T 10 (pp.1		
Company								
Total Dept	h of Well (fe	eet): <u>1,0</u>	18	Reference F	Paint:		Datum:	
Depth to \	Vater (feet):			2" - 0.16				
	11 1 4 4 4			44 000				Minimum Purge Volume
Water Coll	ımn Helght (f	ect):		6" - 1.47	Gal/feet		(X) 3 ×	(Gallons)
PURGE ME	THOD:	•			•		PVC	$\Box$
Submersibl	e Pump	Bladder Po	ımp 🗀	Hand Pump	7 Pariet	altic Pump	Petter Teflon	
							SS Disposable	H
Pump Mak	e/Model:	Produ	سلتضي ل	re,el			•	~~ v □ "□
							Purge Equipment Decon	.qs A ☐ N ☐
Depth of f	Pump Intake (	(feet):		Purge/Dec	on Water Y inerized?	ПиП	Container Type/ Volume?	
_	-C80		poogon			•		
1		Temp.	Prog pr	Conductivity	: Turbidity	T		
Time	Gallons	(C / F)	РΗ	(µmhos/cm)	(NTUs)	Other	Observations/Comme	ents
0931	93,000	21.0	7.18	920 ·	3.72	char		
0935	105,000	7).0	7.42	435	2.58	clear	son bubbles	
	<del></del> -						Ser bures	
						-		
				;				
<b> </b>		<del> </del>	<b> </b>				<b></b>	
		<del> </del>					<b></b>	
ļ	<b></b> -	<del> </del>						
		<u> </u>						· · · · · · · · · · · · · · · · · · ·
					-			
SAM	PLE COLLEC	CTION METHO	<u>):</u>		·		ANALYSES:	
Pump:	J Flow ro	ıte:	<del></del>	Metho BOZI	od:		ntainer Type/Val.	Preservative
Baller: Other:	Type:			300.0		3-40-1 U	<u> </u>	NCL
•		10 000 000	_ la ====	500.0		1-250		none
Sample ID:	120-	18 000 098 GW-1800	- (00876 0985_Inc				· · · · · · · · · · · · · · · · · · ·	
Oup. (D (If Sample Ti		940	- 101-100					
								<u> </u>

environmental engineers, scientists, planners, & management consultants

Well No.: MW5- Site: Bald	win Park Opera	ible Unit		Date: 4/2/9	16				
Client: San Gabriel Basin Water Quality Authority Project No.: 2581-112-CG									
Well Casing Diameter: 2" 4" 6" 0	ther:	Well Casing	g Material:	PVC SS Oth	er:				
Well Headspace: PID (ppm):			FID (ppm):						
Sampler: I, MOTUZ									
Total Depth of Well (feet): 1,078 Reference Point: Tribund Stuface Datum:									
Depth to Water (feet):  2" - 0.16  Minimum Purge									
Water Column Height (feet):(X) 4" - 0.65 Gal/feet =(X) 3 =(Gallons)									
PURGE METHOD:				PVC					
Submersible Pump Bladder Pump	Hand Pump	Peristal	ltic Pump 🔲	Teflon Bailer: SS Disposable					
Pump Make/Model:				Purge Equipment Decon	d3 A □ N □				
Depth of Pump Intake (feet):  PUMP-  8:44  network	Depth of Pump Intake (feet): Purge/Decon Water Y N Container Type/								
Time Gallons (C / F) PH	Conductivity (umhos/em)	Turbidity (NTUs)	Other	Observations/Comme	nts				
1037 316400 22.8 72504	1 400	3.60	clar	Totalizio 967	244 louric &				
1096 9725 200 22.2 3.74	400	3.59			2.81,000 80				
10487 34400 205 3KX14	(00	3.89	do	967	273				
				ه فقة هم جنب فقة فقد هم جنب شد هم جنب هم المداد .					
Ry									
<del></del>									
L			<u>.                                    </u>	I					
SAMPLE COLLECTION METHOD:				ANALYSES:					
Pump: Flow rate: 100m @ 3450	8021		Cor 3 VD∆	tainer Type/Vol.	Preservative HCL				
Bailer: Type: ————————————————————————————————————		Hineral	1 poly		NOL				
	.7 4		1 125 v	N Gmber	none				
Sample ID: BY BY GW-1300 0093-010000		Dry.							
Sample Time: 1045									

environmental engineers, scientists, planners, & management consultants

0927	35,200	20.0	7.46	385	3-38	char	328\$ 80 "	`` \
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		<u> </u>						
						İ		
SAMF Pump:	Flow ro	TION METHO	D <u>:</u>	Meth		Con	ANALYSES: tainer Type/Vol.	Preservative
Bailer:	Type:			820			1 10kg	VCL
Other:	Desc.:			300		1-250	2ml polij	Ne Ne
Sample ID:	BP-GW	519028	<u>58-10</u> 09	ž	Car			
Oup. ID (If	appl.]:BP. C	W-51909	582.61-100	ج الآد				
Sample Tim	10: <u>093</u>	30; 0949	<u> </u>	L				
CDN	engineers	s, scientists Consultant	;	MONITOR	ING WEL	.L PURG	E AND SAME	PLING FORM
	_							
				· · · · · · · · · · · · · · · · · · ·		·		

B4B

MUROZ

Well No.:

Sampler:

Well Casing Diameter:

Total Depth of Well (feet):

Water Column Height (feet):

Depth to Water (feet):

Submersible Pump

Depth of Pump Intake (feet):

Gallons

13,200

24,200

PURGE METHOD:

Pump Make/Model:

Time

Well Headspace:

Site:

500

Bladder Pump

San Gabriel Basin Water Quality Authority

PID (ppm):

10/9/50

Temp. (C / F)

21,0

ე0. ს

Baldwin Park Operable Unit

Other:

(X)

0911

pН

7.62

7.57

Project No.:

Reference Point:

Gal/feet

gpm:

Turbidity (NTUs)

3.44

2" - 0.16

4" - 0.65

Hand Pump

Purge/Decon Water
Containerized?

2200

Conductivity (µmhos/cm)

3 BO

2581-112-CG

Well Casing Material:

FID (ppm):

Peristaltic Pump

Other

Date: 10/9/96

Other:

Minimum Purge Volume (Gallons)

Datum:

Purge Equipment Decon'd? Y N

SS

PVC

(X) 3

Bailer:

Container Type/ Volume?

3283 95

PVC Teflon

SS Disposable

Observations/Comments

Well No.: BYB Site: Baldwin Park Operable Unit Date: 4/2/91										
Client: San Gabriel Basin Water Quality Authority Project No.: 2581-112-CG										
Well Casing	Diameter:	2" 4"	6″ (	Other:	Well Casin	g Material:	PVC	SS	Other:	
Well Headsp	Well Headspace: PID (ppm): FID (ppm):									
Sampler:	HU	MZ_								
Total Depth of Well (feet): See Reference Point: 95 Datum:										
Depth to Wo	ater (feet):	<u>''2</u>	v 15515 T	2" - 0.16	-					finimum Puras
Water Colum	Water Column Height (feet): (X) 6" - 1.47   Minimum Purge Volume									
PURGE MET	THOD:				-			PVC	П	
Submersible	Pump 7	Bladder P	ump 🔲	Hand Pump	] Perista	ltic Pump	Baile	Teflon	ble	
Pump Make/	/Model:						Purge Ed	julpment D	econ'd? Y	√ □ N □
Depth of Pu	Depth of Pump Intake (feet): Purge/Decon Water Y N Container Type/ PUMP DID: MARCHZE (96 Containerized? Volume?									
Time	. Gallons	Temp.	На	Conductivity (umhos/cm)	Turbidity (NTUs)	Other	Obse	rvations/C	omments	
1115	+bdgy of pump	23.0	7.53	380	5.03	bubble	16+111	3 89 /10	owbic fer	J) 2000 (A
(121	12,000	22.2	7.51	38 ₀	3.70	bibbles	1	<u>57 ° </u>	•	ריט
1124	18,000	72.8	7.52	38 _Q	2.34	bubble				
1125	20,000	22.0	7.54	3 XD	4.00	bubble	171			
7										
150	<u> </u>				L		 			
		***								
SAMP		TION METHO		Meth	od:	SAMPLE (	ANALYSE		<del></del>	Preservative
Pump: 4		te: 3 <u>25ee</u>	per 100ml	BOZ		31003		, por 401.		HCL
Baller: Other:	Type: Desc.:		~~~~	Cexeral H	inelail +	1 poly	Ll_			معين
Sample ID:	BP-GW-	-519028	58-04029	nitrate thi	trite,					
Dup. ID (If o	abb('): RA- ()	N2110682	B(F)P46791	netals Bi	12 1 MC 03	1 x 125 A				
Sample Tim	ie:	130	<u></u>	10940V		1 1 (6) 1	11 9n	nper		nore

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Well No.:	139WL		Site: Bal	ldwin Park Oper	able Unit		Date: 10/7	196
Client: S	an Gabriel B	asin Water Ou	ality Author	ity Project	No.: 2581-1	12-CG		
Well Casing	Diameter:	2" 4"	6~	Other:	Well Casir	ng Material:	PVC SS Of	her:
Well Heads	pace: F	'ID (ppm):	-			FID (opm):		
Sampler:	5. Tan	nehill						
Total Depth				Reference	Point:		Datum:	·
Depth to W	ater (teet):			2" - 0.16				) // -! D
Water Colur	nn Height (f	eet):	(x	44 0.05	Gal/feet	=	(X) 3 ×	Minimum P Valume (Gallons
PURGE MET	THOD:	•			-		PVC	
Submersible				Hand Pump	Peristo	iltle Pump 🔲	Baller: Teflon SS Disposable	
Pump Make.	/Model:	Productio	w Wel	<u> </u>			Purge Equipment Decon	'd? Y □ и[
Depth of Pu	ımp İntake (	(feet):	•	Purge/Dec	on Water Y Inerized?	_ y⊠	Container Type/ Notume?.	AL
Runmain	e for ~	Mehour n	o pie u		<u> </u>			······································
Time	. Gallons	(Ç) F)	pH <	Conductivity (µmhos/cm)	Turbidity (NTUs)	Other	Observations/Comme	ents
1000		24.0°C	7.23	890	2.98	etterusa	<u>.</u>	
1003		2. B	7.20	890	3.49	ellouse	4	
					<u> </u>	<b></b>		
		<del> </del>				<b></b>		
					<b></b>	<del> </del>		
		<del> </del>		<u>-</u>	<b> </b>	-}		· · · · · · · · · · · · · · · · · · ·
	<u> </u>							
SAME	NE COLLEC	TION METHOD	١.			SAMOLE	ANAL VCEC.	
			<u></u>	Meth	od:		ANALYSES: utainer Type/Vol.	Preservativ
Pump: N	∐ Flow ro ∐ Type:	are:		8260		3-40ml		HCL
Other:	Desc.:			300.0		1-250	n/poly	none_
Sample ID:	BP 0190	1598-100	196				·	
Oup. ID (If	appl.):	DIS						
Sample Tim								1

environmental engineers, scientists, planners, & management consultants

Well No.:	13960-	<u> </u>	Site: Bal	dwin Park Oper	able Unit		Da	te: 4/	12/94	
Client: S	an Gabriel B	asin Water Qu	ality Author	ity Project	No.: 2581-11	2-CG				
Well Casing	Dlameter:	2" 4"	6″	Other:	Well Casin	g Material:	PVC	ss	Other:	
Well Heads	pace: P	ID (ppm):				FID (ppm):				
Sampler:	MUN						·	<del> </del>		
Total Depti	h of Well (fe	et): <u>3</u>	125 18	Reference I	Point:	500%	his tube	D	atum:	
Depth to W	ater (feet):	<u>~1</u> ;	<u>20</u>	2" - 0.16						
Water Colu	mn Height (f	eet):	228 (x		Gal/feet	<u>6249</u>	(X) 3	18,	148 M	nimum Purge Volume (Gallons)
PURGE ME	THOD:	•		26 27	<u>.</u> 40			PVC		
Submersible	Pump 🛐	Bladder Po	ump 🔲	Hand Pump	Perista	Itic Pump 🔲	Bailer:	Tafles		
Pump Make		Maduel		U,			Purge Equi	•	econ'd? Y	
Depth of Po	ump Intake ( のひい 色) 4/17	feet): <u>~3</u> 951 ov 196		Purge/Deci Contai	on Water Y   Inerized?	П и	Container V	Type/ olume?		
Time	. Gallons	(C) F)	ρΗ	Conductivity (mhos) cm)	Turbidity (NTUs)	Other	Observe	ations/C	omments	
1035	44,000	21.6	7.27	820	1.22	clear/ sare bull	ES 183	36,000	culari Jul	~ \Joseph
1038	47,000	21.0	7.25	810	2.60	q	5593 y	- <del>525</del>		
1041	50,000	20.6	7.26	810	0.91	17	S598 4°			
\					-					
\										
1										
1										
/										
<del>-</del>							<b> </b>			
<del>-</del>						<b></b>	<b> </b>			
		<u>-</u>		<u>-</u>		<b> </b>	<b> </b> -			<u>-</u>
	ME. WIG	N DIMME	· · · · · · · · · · · · · · · ·	aull ! 1		I	<u>L</u>			
		TION METHO	):	•		SAMPLE	ANALYSES:	L		
Pump:	√ Flow ra	ite: 40 se-p	es Doul	Metho			itainer Type	e/Vol.		eservative
Baller:	Type:			1 700/1/1/1	11.1	3x40ml	JOA'S			ici
Other:	Desc.:		5446.2	GH, TAS	Res Mets	<u> </u>	py		\Y	we.
		X90159B	<u>-0412</u> 96 -	1-2 - NUS)	Dicarionati					
Dup. ID (If Sample Tim	appl.):/D.	ගෙ		Radon					, vi	کبر ا
,										

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I.\PRO	CDM environmental engineers, scientists, planners, & management consultants
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Well No.:	.139 <u>w</u>	<u>+</u>	Site: B	aldwin Park Oper	able Unit		Date: 10	7/94
Client: S	an Gabriel E	Basin Water Q	uality Autho	ority Project	No.: 2581-	112-CG		
Well Casing	Diameter	2" 4"	6~	Others	Well Casi	ng Material:	PVC SS O	ther:
Well Heads	pace: {	PID (ppm):			•	FID (ppm):		
Sampler:	S. Ta	mehill						
	of Well (f			Reference	Point:		Datum	1:
Depth to W	ater (teet):	<u></u>		2" - 0.16				
Water Calur	nn Helght (1	feet):	(	x) 4" - 0.65	Gal/feet	×	(X) 3 =	Minimum Purg Volume (Gallons)
		•		6" - 1.47	00077001	•		(Gallons)
PURGE ME	THOD:				-		PVC	
Submersible	Pump	Bladder P	ump 🔲	Hand Pump	Peristo	altic Pump	Bailer: SS	R
		η.					Disposable	
Pump Make	/Model:	Producti	on the				Purge Equipment Decor	v,q5
Depth of P	ımp İntake (	(feet):		Pura /Dec	on Water V	□ N □	Contains Tuesd	
·			•	Conta	on Water Y Inerized?	. "	Container Type/ Volume?	
	r				•			
Time	. Gallons	Temp. (C / F)	рH	Conductivity (unhos)cm)	Turbidity (NTUs)	Other	Observations/Comm	ents
1022		22.2	7.49	413 .	4.01	Afterweent	2,000gpm	
1025		21.0	7.47	429	2.38	efferecent		
			<b> </b> -					
			<b> </b>					
			<u></u>					
				<del> </del>		·		
		!	<u> </u>					
CVIID	LE COLLEC	TION METHO	<b>.</b>					
<b>\</b>	_		<b>45.</b>	Metho	od: I	SAMPLE A	NALYSES: giner Type/Val.	Preservative
Pump: <b>U</b> Bailer:	Flaw ro	ire:		8260		3-40ml 6		the the
Other:	Desc.:			300.0		1-250mg		nove
Sample ID:	BP-080	00069-100	796					
Dup. ID (If o	ppl.): Ba	FB-1						
Sample Time	e: <u>- 10</u>	35 101	<u>t6</u>					
					· · · · · · · · · · · · · · · · · · ·			

	SAMPLE ANALYSES:	
Method:	Container Type/Val.	Pres
8021	3 X YOM VOKE	H
GM, TSS, TDS	2×12 volu	κi
6 Hefel: bicarbonate		L
NOZONOS		ł
Radon	2 x 1/0	\ \ \
MONITORING WE	LL PURGE AND SAMP	LING F
	BOZI GM. TSS. TDS Hetal: bicarbande, NO35-NO2 Radon	Method: Container Type/Vol.  8021 3XYOM NONE  GM. TSS. TDS 2x1L york,  Hetal: bigsbrowle NO35NO2

Well No.:	1394	2-4	Site: Bal	dwin Park Oper	able Unit		Date: 4/12/	76	
Client: San Gabriel Basin Water Quality Authority Project No.: 2581-112-66 SAMP									
Well Casing	Dlameter:	2" 4"	6″	Other: 20	4	ng Material:		ner:	
Well Headsp	pace: F	'ID (ppm):				FID (ppm):			
Sampler:	MUND		7						
Total Depth	~ 900 Total Depth of Well (feet): 846 Reference Point: Socialize tube Datum:								
Depth to W	Depth to Water (feet): (~120)  2" - 0.16								
Water Colum	nn Height (f	eet): <u>1</u>	<u>26</u> (x	) 4" - 0.65 6" - 1.47	Gal/feet	<u>. 11,841</u>	(x) 3 = <u>3552</u>	Minimum Purgo 3.18 Volume (Gallons)	
PURGE MET	THOD:	•	~	20	3L		PVC		
Submersible	Pump N	Bladder P	ump	Hand Pump	Peristo	altic Pump 🔲	Baller: SS Disposable		
Pump Make.	/Model:	Prode	tion be	el			Purge Equipment Decon	as A □ M△	
Depth of Pu	IMP Intake ( OHD OU GPH (2)	4110196	•	Purge/Dec . Contai	on Water Y Inerized?	□ n⊠	Container Type/ Volume?		
Time	. Gallons	ZYDOGOM Temp.	pН	Conductivity (Lmhos/cm)	Turbidity (NTUs)	Other	Observations/Comme	ents	
0956	_	4.3	7.10	430	2.73	da	267972 cubic	feet 100 hard	
1001		71.5	7.08	450	1-31	du	2619 76000		
1003		21.6	7.08	451	1.03	bulle	2679 94000		
1095		21.6	7.19	481	0.98	bulgbley	26798900		
\									
		<b> </b>							
70		<del> </del>							
<del> </del>		<del> </del>				<del></del>			
		<del> </del>							
<del> </del>		<del> </del>				- <del> </del> -			
} <u>\</u>	<b></b>	ļ	<u> </u>	··					
	<u> \</u>					<u> </u>			
SAME	PLE COLLEC	CTION METHO	<b>D:</b>				ANALYSES:		
		ate: 15sec	P5/100ml	8021	0a:	3 X 40ml	tainer Type/Vol.	Preservative	
Baller: [	Type: Desc.:	***************************************			2AT.	2×12		none	
Samala ID		.080000	69-4129L						
Dup. ID (If				1032N					
Sample Tim		1912		Kadon		2 x x	<b>J</b>	Lone	

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Well No.:	139 W	5	Site: Bal	ldwin Park Oper	able Unit		Date: 10/7	196
Client: So	on Gabriel E	Basin Water Ou	ality Author	Ity Project	No.: 2581-1	12-CG		
Well Casing	Dlameter:	2" 4"	6~	Other:	Well Casin	g Material:	PVC SS Oth	ner:
Well Heads	pace: F	O (opm):				FID (ppm):		
Sampler:	7.	3. 19	nnehill					
Total Depth	of Wall (fe	an+1.		5.				
Depth to W		, 21	H5 (pump	نيا	oint:		Datum:	
Ocpin to in		<u> </u>		2" - 0.16				Minimum Pur
Water Colum	nn Height (f	cet):		4" - 0.65 6" - 1.47	Gal/feet	=	(X) 3 =	Volume
PURGE MET	THOD:	•				•		
Submersible		Bladdor B			- -	🗔	PVC Teflon	H
Submer since	ramp [	Bladder P	ump [_]	Hand Pump [	_ Peristo	ltic Pump	Bailer: SS	
Pump Make.	(Madela	Productió	En les	17			Disposable	
•							Purge Equipment Decon	
Depth of Pu	ımp İntake (	(feet):	<del></del>	Purge/Dec	on Water Y		Container Type/ Volume?	/A
						•		
T!	. Gallons	Temp.		Conductivity	: Turbidity	Other	Observations/Comme	note
Time	· Gottons	(C) F)	рН	(hupos cu)	(NTUs)	Officer	Observations/ Colline	:1112
0932		21.6	7.27	410 .	4.10	efferment	2800 gpm	
0935		21.	7.22	406	1.88	effection 4		
		<del> </del>	<b></b>					
		<del> </del>	<del> </del>					
		<u> </u>						
SAMP	LE COLLE	TION METHO	<u>0:</u>	Meth			ANALYSES:	10
Pump:	Flow ro	ate:		8260	ou:	3 x40ml	tainer Type/Val.	Preservative NCL
Other:	Desc.:			300.0	>	1×250m		none
Sample ID:	., BP	0800000	£ 10079	4				
Dup. ID (If	appl.); _ 🛶							
Sample Tim	e: 07451	0.34; 104	<u> </u>					
	1							

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Well No.: 13	39 (	w <u>5</u>	Site: Ba	ldwin Park Oper	able Unit		Date: 4	12/96
		asin Water Qu	· · · · · · · · · · · · · · · · · · ·			12-CG		
Well Casing		2" 4"	6"	Other: 185	1	ng Material:	PVC SS	Other:
Well Headsp	ace: P	ID (ppm):				FID (ppm):		
Sampler:	LUDOZ							
Total Depth Depth to Wa	•			Reference	Point:	sounding the	be 0	atum:
Water Colum	n Helght (f	eet): <u>[ [ </u>	098_0	2" - 0.16 4" - 0.65 6" - 1.47	Gal/feet	- 14,516	2 (X) 3 = <u>43</u>	Minimum I Volum (Gallon
PURGE MET	HOD:	•		1 <u>B 13.</u>	22		PVC	
Submersible	Pump 🔽			Hand Pump	Peristo	altic Pump	Baller: Teflon SS Disposa	ble D
Pump Make/	Model:	palet	100 wel	<u> </u>			Purge Equipment D	econ'd? Y N
~ 7	isson chw	feet): <u>~30</u> S PUM PING	•	Purge/Dec . Conta	on Water Y inerized?	_ ND	Container Type/ Volume?	
Time	. Gallons	(C) F)	рН	Conductivity (unhos/cm)	Turbidity (NTUs)	Other	Observations/C	omments
1100		23.0	7.39	445	1,17	diar	105993000	2800gpm
1104		22.5	7.46	440	1.83	dson	10601/007	
1107		22.3	7.47	940	2.03		106021000	
1					-			
1								
1								
W								
/-						-		
		<u>-</u>	<b></b>	<del> </del>	<b></b> -	-		
	<del></del>	ļ	<u> </u>	<u> </u>	]			
SAMPI	E COLLEC	TION METHO	Ω:			SAMPLE A	NALYSES:	
Pump:	Flow ro	0-	2001 DON	Meth	od:	Con	tainer Type/Vol.	Preservat
Baller:	Type:		· · · · · · · · · · · · · · · · · · ·	8021		3xtom	VOAS	NCL
Other:	Desc.:		2111=2:	GM , TS		ZXIL	poly	new
Sample ID:	K- <u>GW-0</u> <b> </b>	9000096 - J- 0800096	041296 T=>641291	Metals, bu	Corbwal			
Dup. ID (If a Sample Time		<u>)                                    </u>	(1-70 tick)	Rada	<b>4</b>	2x40ml	Z'AON'S	non
	BP-6W-			· <del>··········</del>			<del> </del>	

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1185-

Well No.: G	Pendue T	16	Site: Bal	ldwin Park Oper	able Unit		Date: 9-24-	96
Client: So	an Gabriel B	asin Water Ou	ality Author	ity Project	No.: 2581-11	2- <del>08-</del>		
Well Casing	Dlameters	2" 4"	6~	Other: 26"	Well Casin	g Material:	PVC SS Othe	r
Well Headsp	ace: F	'ID (ppm):	-			FID (ppm):		
Sampler:	Sampler: I, Munic							
Total Depth	Total Depth of Well (feet): LOO Reference Point: Top at Sound Julio Datum:							
Depth to Water (feet): 266.5								
Water Column Height (feet): 2" - 0.16  4" - 0.65 6" - 1.47  Water Column Height (feet): 2" - 0.16  4" - 0.65 6" - 1.47  Minimum Purge 4" - 0.65 (Gallons)								
PURGE MET	.HOD•	•		26 27	86	•		
Submersible		Bladder Pt		Hand Pump	_	tic Pump	PVC Teflon SS Disposable	
Pump Make	/Model:	Graduel	يص لنك	<u> </u>		<u></u>	Purge Equipment Decon'd	7 Y 🗌 N 🗍
Depth of Pu	ımp intake (	feet):	•	Purge/Dec	on Water Y ( inerized?	_ N	Container Type/ 182. Volume?	- 688N
P	unpan	1639					Totalin 50,8	40,000 وعلا
Time	. Gallons	Temp. (C / F)	На	Conductivity (µmhos)cm)	Turbidity (NTUs)	Other	Observations/Commen	ts
1641		21.5	7.96	620	¥2.2	Leubrel		nallassi
1643		27.5	7.53	800	10.14	clear	50, 84	14~1,000 p
1645		20.5	7.55	760	6.56	clear	<i>3</i> 0, 84	7
1653		21.0	7.60	720	3. Bo	dear	50,85	55.
1456		20.5	7.54	720	3.54	chan	50, 80	59
161100		20.0	7.51	700	3.18	clear	So, 8	63
17052	· · · · · · · · · · · · · · · · · · ·	20.0	7.56	720	3.03	chai	50,86	6
							·	
,								
			<u> </u>	<u></u>	<u></u>	•		50848000
SAMP	LE COLLEC	TION METHOD	<u>).</u> .				ANALYSES:	
Pump:	Flow ro	ıte:		BZ6 C	<del> </del>	5-40v	tainer Type/Vol.	Preservative HCL
Other:								
Sample ID:	BP-GW-	01900083	1-092496					
Dup. ID (If o	1	705						-
Sample Tim	e:	103		<u> </u>				
						•		

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74

Site:

600

Bladder Pump

Temp.

U. 8

Production level

Нα

6.97

6,91

6.82

6.79

4.79

266.05

333.95 (X)

San Gabriel Basin Water Quality Authority

PID (ppm):

Baldwin Park Operable Unit

2" - 0.16

4" - 0.65

26 "-27.56

Hand Pump

Conductivity

(umhos cm)

705

705

710

110

7/10

Purge/Decon Water Containerized?

Turbidity (NTUs)

12.44

5.85

3.23

Project No.: 26"

Well No .:

Sampler:

Well Casing Diameter:

Total Depth of Well (feet):

Water Column Height (feet):

Depth of Pump Intake (feet):

Pup Sleet 0929

Gallans

6,000

18.000

Depth to Water (feet):

PURGE METHOD: Submersible Pump

Pump Make/Model:

Time

D932_

*৩95*Y

D938

Well Headspace:

0950	24,000	25.Y	6.81	70	1.46		50779,000	
0955	30,000	7.15	6.86	150	1.17		\$ 185,000	
		· <del></del>						
	<del></del>						·	
	<del></del>		<b> </b> -					
<del> \-</del> -	<del>                                     </del>							
<del> </del>				<u>-</u>				
	1957		<u> </u>					
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7/2/96

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Minimum Purge

Volume (Gallons)

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Baller:

SS

2581-112-00 TY- SAMP

FID (ppm):

Well Casing Material:

Reference Point: Top of sound; tuke

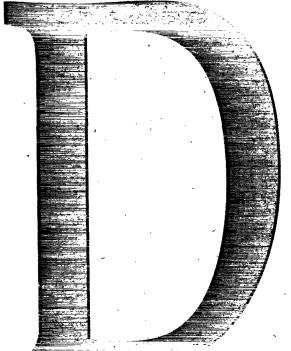
Peristaltic Pump

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Well No.:	YOFGLED NWS	- G7	Site: Bal	dwin Park Oper	able Unit		Dates	3/27/96	
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0915	16,000	19. 1	7.3/	732	3.61	clear	24140		
0919	19,000	20-1	7-33	735	2.90	char	24143		
0923	25,000	19.2	7.31	739	2.01	clear	24 LY9		
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environmental engineers, scientists, planners, & management consultants



Appendix D

Appendix D
Data Validation Reports

# DATA REVIEW CLP-LIKE DATA PACKAGE

Project:

Baldwin Park OU Pre-RD - Groundwater Monitoring Program

References:

USEPA CLP National Functional Guidelines for Organic/Inorganic Data Review

February 1994 (EPA540/R-94/012)

SW-846 Methods, July 1992

Sampling and Analysis Plan, Baldwin Park Operable Unit Pre-Remedial Design,

Groundwater Monitoring Program, June 14, 1995

Reviewer:

**Todd Burgesser** 

CDM - Denver, Colorado

**Analytical Laboratory:** 

Thermo Analytical

Santa Ana, CA 92705

			Date		
Sample ID	Laboratory ID	Sample Matrix/Type	Sampled	Shipped	Received by Lab
BP-GW-MW51301-011896	L2980-1	Groundwater	01/18/96	01/18/96	01/18/96
BP-GW-MW51302-011896	L2980-2	Groundwater	01/18/96	01/18/96	01/18/96
BP-GW-MW51302K-011896	L2980-3	Groundwater (duplicate)	01/18/96	01/18/96	01/18/96
BP-GW-MW51303-011896	L2980-4	Groundwater	01/18/96	01/18/96	01/18/96
BP-GW-MW1303N-011896	L2980-5	Groundwater (rinsate)	01/18/96	01/18/96	01/18/96

# Analyses Required (Non-CLP Methods):

<u>L2980-1 through L2980-6</u> VOCs by EPA 8021

#### **Holding Times:**

				Date		II-lilia mi OVA
Analyte	Method	Holding Time	Sampled	Digested	Analyzed	Holding Time OK? (Y/N)
VOCs	8021	14 days	01/18/96	na	01/25 - 01/26/96	Y

# Volatile Organic Data Review (EPA Method 8021)

Holding Time:

14 day holding time for preserved samples. Criteria met.

**Initial Calibration:** 

Minimum 5-point calibration curve. Criteria met for all compounds.

# Continuing Calibration:

#### **Evaluation:**

1/25/96

Criteria met for all compounds.

1/26/96

Criteria met for all compounds except: chloromethane and

dichlorodifluoromethane. Daily RFs were greater than 15% from initial RFs.

Action:

Sample results for these compounds were not detected at concentrations

greater than the method detection limit. It is recommended to qualify the non

detected results for these compounds as "UJ".

#### Blanks:

Styrene was detected in the method blank at  $0.21~\mathrm{ug/L}$ , and naphthalene was detected at  $1.1~\mathrm{ug/L}$ .

Action:

Styrene was detected in four of the samples at less than five times the concentration found in the method blank. All positive results for styrene should have the detection limit raised to five times the value found in the method blank and qualified as not detected "U". Naphthalene was not

detected in any of the samples. No action is required.

## Surrogates:

Two surrogate spikes (2-chloropropane and 1-chloro-2-fluorobenzene) were added to each environmental sample, blank and QA sample. Control limits were established by laboratory at 75 - 125 % recovery. Criteria were met for each sample.

# Matrix Spike/Matrix Spike Duplicates (MS/MSDs):

Criteria were met for all compounds except benzene which had an RPD of 17 percent (0-10 percent control limit).

Action:

No action will be taken on the MS/MSD data only. If further QC violations

are identified then the MS/MSD violation should be considered in

conjunction with the other QC violations.

## **Laboratory Control Sample:**

Percent recovery specified in QAPjP (Table 3-6) of for each analyte. Criteria met.

Method Detection Limits and Target Compounds: Specified in QAPjP. Criteria met.

#### Field Blanks:

One decontamination rinsate blank (BP-GW-MW51303N-101896) was included with this sample batch. Styrene was detected at 0.23 ug/L but was also detected in the laboratory method blank. No action will be taken on this sample.

### Field Duplicates

One split sample (BP-GW-MW51302K-011896) was included with this sample batch. RPD criteria were met for all detected compounds with the exception of 1,1-dichloroethene which was detected in the original sample a 0.33ug/L and in the duplicate at 0.24 ug/L with an RPD of 32 percent.

Action:

No action is recommended.

# Overall Assessment of Volatile Organic Data:

Due to RFs that were outside of acceptable control limits during continuing calibration checks, it is recommended that non-detected results be qualified with "UJ" for both chloromethane and dichlorofluoromethane. All positive results for styrene have been qualified "U" due to method blank violations.

All other volatile target compounds do not require qualification and are considered usable.

# DATA REVIEW CLP-LIKE DATA PACKAGE

Project:

Baldwin OU Pre-RD - Groundwater Monitoring Program

References:

USEPA CLP National Functional Guidelines for Organic/Inorganic Data Review

February 1994 (EPA540/R-94/012)

SW-846 Methods, July 1992

Sampling and Analysis Plan, Baldwin Park Operable Unit Pre-Remedial Design,

Groundwater Monitoring Program, June 14, 1995

Reviewer:

**Todd Burgesser** 

CDM - Denver, Colorado

**Analytical Laboratory:** 

Thermo Analytical

Santa Ana, CA 92705

			Date		
Sample ID	Laboratory ID	Sample Matrix/Type	Sampled	Shipped	Received by Lab
BP-GW-MW50501-101295	L2609-1	Groundwater	10/12/95	10/12/95	10/13/95
BP-GW-MW50502-101295	L2609-2	Groundwater	10/12/95	10/12/95	10/13/95
BP-GW-MW50503-101295	L2609-3	Groundwater	10/12/95	10/12/95	10/13/95
BP-GW-MW50503K-101295	L2609-4	Groundwater (duplicate)	10/12/95	10/12/95	10/13/95
BP-GW-MW50504-101295	L2609-5	Groundwater	10/12/95	10/12/95	10/13/95
BP-GW-MW50504N-101295	L2609-6	Groundwater (Rinsate Blank)	10/12/95	10/12/95	10/13/95

## Analyses Required (Non-CLP Methods):

L2609-1 through L2609-6 VOCs by EPA 8021 Nitrate and Nitrite by EPA 300.0

## **Holding Times:**

			Date			II-lii- Ti- OV2
Analyte	Method	Holding Time	Sampled	Digested	Analyzed	Holding Time OK? (Y/N)
VOCs	8021	14 days	10/12 &10/13/95	na	10/17 - 10/19/95	Y
NO ₃ and NO ₂	300.0	48 hours	10/12 & 10/13/95	na	10/13/95	Y

# Volatile Organic Data Review (EPA Method 8021)

**Holding Time:** 

14 day holding time for preserved samples. Criteria met.

#### **Initial Calibration:**

Minimum 5-point calibration curve. Percent RSD criteria met for all compounds except: 1,1,2,2-tetrachloroethane and 1,2-dibromo-3-chloropropane. %RSD of RF greater than 20%. No qualification is recommended based on the out of control %RSD values because neither of these parameters were reported above the detection limit in the samples.

In addition, there are no response factors reported for the 2.5 ng (0.5ppb) initial calibration standard on the primary column for the ELCD for the following compounds: dichlorodifluoromethane, bromomethane, methylene chloride, dibromomethane, 2-chloroethyl vinyl ether, bromoform, 1,1,2,2-tetrachloroethane, and the two surrogate spike compounds. This would indicate that detection limits reported for these parameters that are less than 0.5 ug/L should be qualified as "UJ".

There was not a response factor reported for the 2.5 ng (0.5 ppb) initial calibration standard on the primary column for the PID for naphthalene. All of the nondetects for naphthalene should be qualified as "UJ".

### **Continuing Calibration:**

#### Evaluation:

10/16/95

Criteria met for all compounds except: 1,2-dibromo-3-chloropropane,

bromomethane, and 1,2,3-trimethylbenzene. Daily RFs were greater than 15% from initial RFs.

10/17/95

Criteria met for all compounds except: 1,1,1-trichloroethane, 1,2-dibromo-3-

chloropropane, carbon tetrachloride, chloroethane, chloromethane, cis-1,2-dichloroethene, tetrachloroethene, 1,1-dichloropropene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1,3-dichlorobenzene, cis-1,3-dichloropropene, ethylbenzene, hexachlorobutadiene, isopropylbenzene, n-butylbenzene, o-xylene, p,m-xylene, propylbenzene, sec-butylbenzene, tetr-butylbenzene, tetrachloroethene, toluene, and trans-1,3-dichloropropene. Daily RFs were greater than 15% from initial RFs.

10/17/95

Criteria met for all compounds except: 1,2-dibromo-3-chloropropane, bromomethane, chloromethane, 1,3,5-trimethylbenzene and vinyl chloride. Daily RFs were greater than 15% from initial RFs.

10/18/95

Criteria met for all compounds except: 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-dichloroethane, 1,2,3-trichlorobenzene, 1,2-dibromo-3-chloropropane, 1,2-dichlorobenzene, 1,2-dichloropropane, 1,4-dichlorobenzene, 2-chloroethylvinylether, 2-chlorotoluene, 4-chlorotoluene, bromochloromethane, bromodichloromethane, bromoform, bromomethane, cis-1,3-dichloropropene, cis-1,2-dichloropropene, dibromochloromethane, dibromomethane, hexachlorobutadiene, trans-1,2-dichloroethene, trans-1,3-dichloropropene, 1,3,5-trimethylbenzene and naphthalene. Daily RFs were greater than 15% from initial RFs.

No qualification of the data is recommended based on the out of control continuing calibrations. If the data were quantified using the daily response factors, they should be useable for the project purposes despite the inconsistent calibrations. However, it should be noted that analyzing samples with four out of control daily calibrations, which exhibited response factors both higher and lower than the initial calibration response factors, is an obvious violation of the method requirements.

Blanks:

No contaminants were detected. Criteria met.

#### Surrogates:

Two surrogate spikes (2-chloropropane and 1-chloro-2-fluorobenzene) were added to each environmental sample, blank and QA sample. Control limits were established by laboratory at 75 - 125 % recovery. Criteria were met for each sample.

# Matrix Spike/Matrix Spike Duplicates:

Project QAPjP (Table 3-6) specified control limits for spike recoveries and for RPD between MS and MSD. Criteria met.

#### **Laboratory Control Sample:**

Percent recovery specified in QAPjP (Table 3-6) for each analyte. Criteria met.

# Method Detection Limits and Target Compounds:

Specified in QAPjP. See discussion under Initial Calibration regarding detection limits. In addition, a number of parameters are qualified by the laboratory as "CE" or co-eluting with another parameter. Since the second column analysis was only a qualitative confirmation, all parameters with a laboratory "CE" qualifier should be considered to be estimated and qualified as "J". The reported concentration should be considered to be less than or equal to the reported concentration as there is no way to attribute the co-eluting concentrations to one parameter or the other.

## Field Duplicates:

One split sample (BP-GW-MW50503K-101295) was included with this sample batch. RPD criteria was met for all detected compounds with the exception of chloromethane which was detected in the original sample at 1.4 ug/L and was not detected in the split sample. No action is recommended.

#### Field Rinsate:

There were low level detections of chloroform, chloromethane, methylene chloride, toluene and p,m-xylene in the field rinsate blank. All sample detections for these parameters that are reported at concentrations less than five times the concentration reported in the rinsate blank should be qualified as "UB".

#### Overall Assessment of Volatile Organic Data:

There were a number of quality issues with the volatile data. The affected results should be qualified as recommended in the preceeding paragraphs. All other data are considered to have completely fulfilled the project objectives.

# Nitrate and Nitrite Data Review (EPA Method 300.0)

**Holding Time:** 

48-hour holding time for unpreserved samples. Criteria met.

#### **Initial Calibration:**

A minimum of three initial calibration standards are required for the method. There is evidence of only two being analyzed.

#### **Initial Calibration Blank:**

There were no detections in the ICB. Criteria met.

# **Laboratory Control Sample:**

The LCS satisfied the recovery criteria for both NO₃ and NO₂.

## Matrix Spike and Matrix Spike Duplicate:

An MS and MSD were analyzed but the results were not reported on the QC summary form, and the true values of the spike amount are not indicated in the data package. No evaluation of matrix effects can be performed. The RPD between the MS and MSD do meet the required criteria.

# **Continuing Calibration:**

The continuing calibration standard verification and blank were analyzed after the project samples. The CCV had an acceptable recovery for NO₃ and NO₂ based on the two-point initial calibration. There were no detections in the CCB.

## **Laboratory Control Sample Duplicate:**

This sample was analyzed after the CCV. The criteria were satisfied for recovery of both NO₃ and NO₂.

Field Duplicates:

The field duplicates had a zero percent RPD for both NO₃ and NO₂.

#### Field Rinsate:

There was a detection of  $0.12 \text{ mg/L NO}_3$  in the field rinsate. However, all of the reported sample concentrations were greater than five times the blank level. No action is required.

### Overall Assessment of Nitrate and Nitrite Data:

Based on the inadequate calibration data provided, and the uncertainty associated with the matrix spike data, it is recommended that all positive detections are qualified as "J", and all non-detects are qualified as "UJ" for both nitrate and nitrite.

# DATA REVIEW CLP-LIKE DATA PACKAGE

Project:

Baldwin Park Operable Unit Pre-Remedial Design -

**Groundwater Monitoring Program** 

References:

USEPA CLP National Functional Guidelines for Organic/Inorganic Data Review

February 1994 (EPA540/R-94/012)

SW-846 Methods, July 1992

Methods for Chemical Analysis of Water and Wastes, EPA 1983 (Method 300.0

revised August 1994 [EPA600/R-93/100])

Sampling and Analysis Plan, Baldwin Park Operable Unit Pre-Remedial Design,

Groundwater Monitoring Program, June 14, 1995

Reviewer:

Barbara Wells

CDM - Irvine, California

**Analytical Laboratories:** 

Thermo Analytical

Santa Ana, CA 92705

Truesdail Laboratories, Inc. (Radon analysis only)

Tustin, CA 92680

·				Date	
Sample ID	Laboratory ID	Sample Type/Analysis	Sampled	Shipped	Received by Lab
BP-GW-MW50501-032096	L3224-1 L3224-2 L3224-3	Groundwater - Metals/Gen. Min. Groundwater - VOCs Groundwater - Radon	3/20/96	3/21/96	3/21/96
BP-GW-MW50502-032096	L3224-4 L3224-5 L3224-6	Groundwater - Metals/Gen. Min. Groundwater - VOCs Groundwater - Radon	3/20/96	3/21/96	3/21/96
BP-GW-MW50503-032096	L3224-7 L3224-8 L3224-9	Groundwater - Metals/Gen. Min. Groundwater - VOCs Groundwater - Radon	3/20/96	3/21/96	3/21/96
BP-GW-MW50504-032096	L3224-10 L3224-11 L3224-12	Groundwater - Metals/Gen. Min. Groundwater - VOCs Groundwater - Radon	3/20/96	3/21/96	3/21/96
BP-GW-MW50504N-032096	L3224-13 L3224-14	Groundwater - Metals/Gen. Min. Groundwater - VOCs	3/20/96	3/21/96	3/21/96
BP-GW-MW50503K-032096	L3224-15 L3224-16 L3224-17	Groundwater - Metals/Gen. Min. Groundwater - VOCs Groundwater - Radon	3/20/96	3/21/96	3/21/96

## Analyses Required (Non-CLP Methods):

L3224-1 through L3224-17

VOCs by EPA 8021

Metals & Cations:

Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Zn, Ca, Mg, K, Na by EPA 6010

As by EPA 7060

Hg by EPA 7470

Pb by EPA 7421

Nitrate, Nitrite, Sulfate and Chloride by EPA 300.0

Alkalinity (HCO₃ & CO₃) by EPA 310.1

TDS/TSS by EPA 160.1/160.2

Hardness by EPA 130.2

Radon by Draft Method 913

## **Holding Times:**

				Date		Holding Time OK?
Analyte	Method	Holding Time	Sampled	Digested	Analyzed	(Ÿ/N)
VOCs	8021	14 days	3/20/96	na	3/23-25/96	Y
Metals (except Mercury), Cations	6000/ 7000	6 months	3/20/96	3/22/96	3/25-26/96	Y
Mercury	7470	28 days	3/20/96	3/22/96	3/26/96	Y
NO ₃ , NO ₂	300.0	48 hours	3/20/96	na	3/22/96	Y
Cl, SO ₄	300.0	28 days	3/20/96	na	3/22/96	Y
Alkalinity	310.1	14 days	3/20/96	na	3/25/96	Y
TDS/TSS	160.1/ 160.2	7 days	3/20/96	na	3/25/96	Y
Hardness	130.2	6 months	3/20/96	na	3/22/96	Y
Radon ²²²	913 (Draft)	24 hours	3/20/96	na	3/21/96	Y

# Volatile Organic Data Review (EPA Method 8021)

**Holding Time:** 

14 day holding time for preserved samples. Criteria met.

## **Initial Calibration:**

Minimum 5-point calibration curve. Percent RSD criteria of less than 20% met for all compounds.

For propylbenzene, there is no response factor reported for the 2.5 ng (0.5 ppb) initial calibration standard on the primary column for the PID. This indicates that detection limits reported for this parameter at less than 0.5 µg/L should be qualified as "UJ".

## **Continuing Calibration:**

3/22/96 (11:33)	Criteria met for all compounds except: dichlorodifluoromethane and chloromethane. For these parameters, the daily RFs were higher than the initial RFs by more than 15%. However, no samples were analyzed in this continuing calibration time range. No qualification is required.
3/22/96 (16:59)	Criteria met for all compounds except: 1,2-dibromo-3-chloropropane. The daily RF was 17% higher than the initial RF.
3/22/96 (23:55)	Daily RFs for each analyte were within 15% of the initial RF. Criteria met for all compounds.
3/23/96 (7:32)	Criteria met for all compounds except: 1,1-dichloropropane, dibromomethane, 2-chloroethyl vinyl ether, dibromochloromethane, bromoform and 1,2-dibromo-3-chloropropane. For each of these parameters, the daily RFs were higher than the initial RFs by more than 15%.
3/25/96 (13:23)	Criteria met for all compounds except: ethylbenzene, isopropylbenzene and sec-butylbenzene. For each of these parameters, the daily RFs were higher than the initial RFs by more than 15%.

No qualification of the data is recommended based on the out of control continuing calibrations. Because the daily calibration response factors were higher than the initial calibration response factors and these parameters were not detected in the environmental samples, the data were considered useable for the project purposes and no further qualification was necessary.

### Blanks:

No contaminants were detected in the laboratory method blanks reported for this sample batch. Results for two method blanks were reported: 3/22/96 and 3/25/96. It should be

noted that the method blank run on 3/22/96 was analyzed approximately 11 hours before the sample batch was run. A second method blank was not analyzed within the analytical batch. Therefore, method blanks were not analyzed at a frequency of 1/12 hours, as specified in the project QAPjP. Qualification of the data will not be made based on this issue alone.

Trichloroethene (TCE) was detected in the equipment blank (BP-GW-MW50504N-032096) at a concentration of 0.51  $\mu$ g/L. This rinsate blank was collected immediately after decontamination procedures, which followed the collection of sample BP-GW-MW50504-032096. Following a thorough evaluation of the data, including the sequence of sample collection and analyses, and because TCE was not detected in sample BP-GW-MW50504-032096, it is the reviewer's opinion that the detection of TCE in the rinsate blank was an isolated occurrence not affecting the other data. Therefore, based on the evaluation of the blank samples, qualification of the data is not recommended.

## Surrogates:

Three surrogate spikes (2-chloropropane, 1,4-dichlorobutane and aaa-trifluorotoluene) were added to each environmental sample, blank and QA sample. Control limits were established by laboratory at 75 - 125 % recovery. Criteria were met for each sample.

## Matrix Spike/Matrix Spike Duplicates:

Spike and spike duplicates from two samples were reported in this data package. With the exception of 1,1-dichloroethane (1,1-DCA), the MS/MSD and RPD data for all other analytes were within the acceptable recovery and RPD control limits specified in the project QAPjP (Table 3-6). With 1,1-DCA, the MS data for both samples were outside of the acceptable recovery limits of 73 - 121%. One sample had a high recovery for the MS; the second showed a low MS recovery. Based on the MS data, a matrix interference may be suspected. Sample results will not be qualified based on the MS data alone.

## **Laboratory Control Sample:**

Percent recoveries of 75 - 125 % were specified in QAPjP (Table 3-6) for each analyte. Criteria met.

### Method Detection Limits and Target Compounds:

Method detection limits and target compounds are specified in QAPjP. Based upon the initial and continuing calibrations, it appears that two compounds co-elute on the primary column: 1,1-dichloropropene and 2-chloroethyl vinyl ether. Because the second column analysis was only a qualitative confirmation, the reported concentration should be considered to be less than or equal to the reported concentration as there is no way to attribute the co-eluting concentrations to one parameter or the other. Because there were no positive detections of these two compounds, no action is required and further qualification is not necessary.

# Field Duplicates (Splits):

One field duplicate (split) was included with this sample batch. The original and its duplicate were identified as BP-GW-MW50503-032096 and BP-GW-MW50503K-032096, respectively. Analytical results were as follows:

Analyte:	Original Sample, (MW50503)	Duplicate Sample (MW50503K)	RPD
Carbon tetrachloride	0.78	0.58	29
Chloroform	1.5	1.3	14
1,1-DCA	0.95	0.71	29
1,2-DCA	0.97	0.80	19
1,1-DCE	24	18	29
cis-1,2-DCE	21	17	21
PCE	180	160	12
Toluene	ND<0.13*	0.17	27
1,1,1-TCA	11	8.5	26
TCE	240	200	18
Vinyl chloride	ND<0.20*	0.26	26

### Notes:

All sample concentrations are shown in µg/L.

As shown in the table above, the RPD between the original sample and its duplicate ranged from 12 to 29%. In general, detections in the original sample were consistently higher than in the split sample. These concentration differences could be the result of volatilization during sample collection if the vials for the split sample were filled after the original sample vials. Because the RPDs between the laboratory MS and MSD were within allowable control limits (see MS/MSD section), it appears that the higher RPDs for the field duplicates are most likely the result of sampling variances, rather than laboratory procedures. Therefore, qualification of the data based on the field duplicate results is not recommended.

## Overall Assessment of Volatile Organic Data:

There were minor quality issues with the volatile data. The affected results should be qualified as recommended in the preceding sections. All other data are considered to have completely fulfilled the project objectives.

^{*} Detection limit used for RPD calculation.

# Inorganic Data Review (Metals)

(Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Zn, Ca, Mg, K, Na by EPA 6010; As by EPA 7060; Hg by EPA 7470; and Pb by EPA 7421)

Holding Time:

Samples were digested and analyzed within the method-specified holding

times. Criteria met.

## Calibration:

a) Initial Calibration

Raw calibration data for ICP analyses were not provided with this data package. However, the raw chromatogram data for this sample batch was provided in data package #L3232. A blank and one calibration standard was used in establishing the analytical curve for ICP, which meets method criteria.

A blank and three calibration standards were used to calibrate the GFAA system (arsenic and lead). The correlation coefficient was > 0.995. Criteria met.

A blank and five calibration standards were used to calibrate the cold vapor system (mercury). The correlation coefficient was > 0.995. Criteria met.

b) Standard Solutions (CRI, CRA):

The CRI (ICP) and CRA (GFAA and CV-Hg) solutions were analyzed in the correct sequence and at the proper frequency. Criteria met.

c) Initial Calibration Verification (ICV):

Immediately after initial calibration, the ICV solution was analyzed. Percent recoveries for each analyte were within control limits of 90 - 110% (80 - 120% for mercury). Criteria met.

d) Continuing Calibration Verification (CCV):

Calibration was verified at the beginning of the analytical run, every 10 samples, and at end of run with CCV solution. Percent recoveries for each analyte were within control limits of 90 - 110% (80 - 120% for mercury). Criteria met.

### Blanks

a) Initial Calibration Blank (ICB)/Continuing Calibration Blanks (CCB):

ICB and CCB blanks were analyzed in the correct sequence and at the proper frequency. In the ICB, iron and manganese were detected at concentrations of 0.00277 and 0.00309 mg/L,

respectively. In the CCBs, the highest detectable concentration of cadmium was 0.00266 mg/L; iron and lead were also detected in one of the CCBs at concentrations of 0.00461 and 0.00469 mg/L, respectively.

Overall, there were a significant number of analyte detections in both the ICB and CCB solutions. Based on validation guidelines, the analyses should have been terminated after analyte detections in the CCB solutions. However, the laboratory did not follow this guideline. Therefore, sample results will be flagged with a "U-B" for positive sample results that are less than 5 times the highest concentration found in any of the ICB/CCB blanks.

# b) Preparation Blank (PB):

As with the ICB/CCB solutions, analytes were also detected in the preparation blank. Aluminum was detected at a concentration of 0.0855 mg/L; barium at 0.00154 mg/L; iron at 0.0397 mg/L; calcium at 0.299 mg/L; magnesium at 0.144 mg/L; and, sodium at 0.217 mg/L. All positive sample detections of these analytes that are less than 10 times the respective concentrations detected in the preparation blank should be qualified as "U-B".

# ICP Interference Check Sample (ICS):

An ICP ICS solution was analyzed at the proper frequency and in the correct sequence within the analytical run. Results for the ICS analyses of solution A+B fell within the control limits of 80 - 120% recovery for each of the analytes included in the ICS solution. Criteria met and no qualification is required.

# LCS Analysis:

Percent recoveries for each LCS constituent fell within the required control limits of 80 - 120%. Criteria met.

## **Laboratory Duplicates:**

The RPD between the original sample and its duplicate was less than 20%. Criteria met.

## Field Duplicates:

Analyte:	Original Sample (MW50503)	Duplicate Sample (MW50503K)	RPD	Control Limits
Barium	0.0894	0.0879	2	± 20%
Chromium	0.00203	ND<0.00180*	12	± Detection limit
Iron	0.0323	0.0279	15	± 20%
Lead	ND<0.000636*	0.000920	36	± Detection limit
Manganese	0.00367	ND<0.00200*	5 <del>9</del>	± Detection limit
Zinc	0.0229	ND<0.0175*	27	± Detection limit
Calcium	55.1	52.7	5	± 20%
Magnesium	12.3	11.9	3	± 20%
Potassium	3.95	3.64	8	± 20%
Sodium	12.4	11.9	4	± 20%

Notes:

All sample concentrations are shown in mg/L.

With the exception of analytes detected at concentrations just slightly higher than their respective detection limits (i.e., chromium, lead, manganese and zinc), the relative difference between the original sample and its duplicate was within the criteria of < 20. For chromium, lead, manganese and zinc, where the detected concentrations were less than 5 times the detection limit, the control limits applied were  $\pm$  the detection limit. Based on these criteria, all duplicate sample analyses meet the control limit criteria. No action is required.

# Spiked Samples:

With the exception of calcium, the spike recovery for each of the analytes was within the control limits of 75 - 125%. Calcium exhibited a high spike recovery, 174%, however, the sample concentration exceeded the spike concentration by more than 4 times. Therefore, no qualification is required based on the out-of-control result.

### Post-Digest Spikes (Analytical Spikes):

Post spike recoveries were within the control limits of 75 - 125% for each analyte analyzed, except for calcium, magnesium and sodium. Analytical spike recoveries for these three analytes were 460%, 176% and 134%, respectively. However, in each of these cases, the sample concentrations exceeded the spike concentrations by more than 4 times, therefore no qualification is required.

^{*} Detection limit used for RPD calculation.

## **ICP Serial Dilution Results:**

The percent difference between the initial sample results and the diluted sample results for each analyte was less than 10%. Criteria met.

## Overall Assessment of Metals Data:

All QC data met the required project objectives, except for the blank analyses data. The affected results should be qualified as recommended in the aforementioned section. All other data are considered to have completely fulfilled the project objectives.

# Inorganic Data Review (Anions)

(NO₃, NO₂, Cl and SO₄ by EPA 300.0 [ion chromatography])

Validation guidelines are not provided for EPA 300.0. An evaluation of the data was performed using the project QAPjP and the method as guidelines.

## Holding Time:

48-hour holding time for nitrate and nitrite. 28-day holding time for chloride and sulfate. Criteria met.

### Calibration:

a) Initial Calibration:

A minimum of a blank and three initial calibration standards are required for the method. General calibration information was provided, however, chromatograms were not initially included in the data package. The laboratory was notified and raw calibration chromatograms were subsequently provided. Criteria met.

b) Initial Calibration Verification:

Recoveries for each analyte were within control limits of 90 - 110%. Criteria met.

c) Continuing calibration verification:

CCV solutions were analyzed at the proper frequency and in the correct sequence. Recoveries were within the control limits of 90 - 110%. Criteria met.

## Blanks:

### a) Initial calibration blank:

There were no analyte detections in the ICB at concentrations greater than the reported detection limits. Criteria met.

## b) Continuing calibration blanks:

CCBs were analyzed at the proper frequency and in the correct analytical sequence. With the exception of chloride, there were no analyte detections in the CCBs at concentrations greater than the reported detection limits. Concentrations of chloride were detected in three CCB analyses at levels higher than the detection limit. It is recommended to flag all positive chloride results that are less than 5 times the maximum chloride concentration detected in the CCB (i.e., 0.525 mg/L) with a "U-B". However, all positive chloride results exceed this limit. Therefore, no qualification is required.

## c) Method blank:

There were no analyte detections in the CCB at concentrations greater than the reported detection limits. CCBs were analyzed at the proper frequency and in the correct analytical sequence. Criteria met.

## **Laboratory Control Sample:**

The LCS satisfied the recovery criteria of 90 - 110% for the four analytes.

## Matrix Spike and Matrix Spike Duplicate:

Spike and spike duplicate recoveries were within the acceptable range of 80 - 120%. The RPD between the MS and MSD results met the criteria of  $\leq$  20%. Criteria met.

### Field Duplicates:

The relative difference between the original sample and its duplicate was within the criteria of  $\leq 20\%$ . Criteria met.

## Overall Assessment of Anion Data:

Based on the anion results discussed in the preceding paragraphs, no action is required and the data should be considered fully usable for the project objectives.

# Inorganic Data Review (Miscellaneous Parameters)

(Alkalinity by EPA 310.1, Hardness by EPA 130.2, TDS/TSS by EPA 160.1/160.2 and Radon by Draft Method 913)

Validation guidelines are not provided for these methods. An evaluation of the data was performed using the project QAPjP and the applicable methods as guidelines.

## **Holding Times:**

Samples were analyzed within the method required holding times specified for each of the analytes. Criteria met.

### Blanks:

No contaminants were detected in the method blanks for the hardness or alkalinity analyses. No action is required.

### LCS:

An LCS was analyzed with the hardness and alkalinity analyses. LCS recovery for the hardness analysis was within the control limits of 90 - 110%, whereas the LCS recovery for the alkalinity analysis was slightly low (89%). Because the MS recovery data was within the acceptable range, no action is recommended for either the hardness or alkalinity results.

### MS:

One sample was spiked for the alkalinity analysis. Spike recovery was within the acceptable range of 80 - 120%. No action is required.

## **Laboratory Duplicates:**

One duplicate analyses was performed for each of the analyses: TDS, TSS, alkalinity, hardness and radon. The relative difference between the original sample and the duplicate for each of the aforementioned analyses was within the control limits of  $\leq$ 20%. No action is required.

## Field Duplicates:

With the exception of radon, the relative difference between the original sample and its duplicate was within the control limits of < 20%. The radon concentration in the original sample was 278 pCi/L; the radon concentration in the duplicate sample was 92 pCi/L. Due to the volatility of radon, this discrepancy is most likely the result of sampling variances, rather than laboratory procedures. Qualification is not recommended.

# Overall Assessment of Miscellaneous Parameter Data:

QC criteria were met for each of the miscellaneous analyses. Based on these results, no qualification is recommended and the data should be considered to have completely fulfilled the project objectives.

## DATA REVIEW CLP-LIKE DATA PACKAGE

Project:

Baldwin Park Operable Unit Pre-Remedial Design -

Groundwater Monitoring Program

References:

USEPA CLP National Functional Guidelines for Organic/Inorganic Data Review

February 1994 (EPA540/R-94/012)

SW-846 Methods, July 1992

Methods for Chemical Analysis of Water and Wastes, EPA 1983 (Method 300.0

revised August 1994 [EPA600/R-93/100])

Sampling and Analysis Plan, Baldwin Park Operable Unit Pre-Remedial Design,

Groundwater Monitoring Program, June 14, 1995

Reviewer:

Barbara Wells

CDM - Irvine, California

**Analytical Laboratories:** 

Thermo Analytical

Santa Ana, CA 92705

Truesdail Laboratories, Inc. (Radon analysis only)

Tustin, CA 92680

				Date	
Sample ID	Laboratory ID	Sample Type/Analysis	Sampled	Shipped	Received by Lab
BP-GW-08000069-041296	L3292-1 L3292-2 L3292-3 L3292-4	Groundwater - Radon Groundwater - VOCs Groundwater - Metals/Cations Groundwater - Gen. Minerals	4/12/96	4/12/96	4/12/96
BP-GW-01901598-041296	L3292-5 L3292-6 L3292-7 L3292-8	Groundwater - Radon Groundwater - VOCs Groundwater - Metals/Cations Groundwater - Gen. Minerals	4/12/96	4/12/96	4/12/96
BP-GW-08000095-041296	L3292-9 L3292-10 L3292-11 L3292-12	Groundwater - Radon Groundwater - VOCs Groundwater - Metals/Cations Groundwater - Gen. Minerals	4/12/96	4/12/96	4/12/96
BP-GW-08000095(F)-041296	L3292-13	Field Blank - VOCs	4/12/96	4/12/96	4/12/96
BP-GW-08000095(P)-041296	L3292-14 L3292-15 L3292-16 L3292-17	PE Standard - VOCs PE Standard - Metals PE Standard - Gen. Minerals PE Standard - Gen. Minerals	4/12/96	4/12/96	4/12/96

# Analyses Required (Non-CLP Methods):

L3292-1 through L3292-17

VOCs by EPA 8021

Metals & Cations:

Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Zn, Ca, Mg, K, Na by EPA 6010

As by EPA 7060

Hg by EPA 7470

Pb by EPA 7421

Nitrate, Nitrite, Sulfate and Chloride by EPA 300.0

Alkalinity (HCO₃ & CO₃) by EPA 310.1

TDS/TSS by EPA 160.1/160.2

Hardness by EPA 130.2

Radon by Draft Method 913

## **Holding Times:**

			Holding Time OK?			
Analyte	Method	Holding Time	Sampled	Digested	Analyzed	(Ÿ/N)
VOCs	8021	14 days	4/12/96	na	4/18/96	Y
Metals (except Mercury), Cations	6000/ 7000	6 months	4/12/96	4/15-17/96	4/16-25/96	Y
Mercury	7470	28 days	4/12/96	4/15-17/96	4/16-25/96	Y
NO ₃ , NO ₂	300.0	48 hours	4/12/96	na	4/12/96	Y
Cl, SO ₄	300.0	28 days	4/12/96	na	4/12/96	Y
Alkalinity	310.1	14 days	4/12/96	na	4/16/96	Y
TDS/TSS	160.1/ 160.2	7 days	4/12/96	na	4/15-16/96	Y
Hardness	130.2	6 months	4/12/96	na	4/15/96	Y
Radon ²²²	913 (Draft)	24 hours	4/12/96	na	4/12/96	Y

# Volatile Organic Data Review (EPA Method 8021)

Holding Time:

14 day holding time for preserved samples. Criteria met.

## **Initial Calibration:**

Minimum 5-point calibration curve. Percent RSD criteria of less than 20% met for all compounds.

For propylbenzene, there is no response factor reported for the 2.5 ng (0.5 ppb) initial calibration standard on the primary column for the PID. This indicates that detection limits reported for this parameter at less than  $0.5 \,\mu\text{g/L}$  should be qualified as "UJ".

## **Continuing Calibration:**

4/18/96 (12:54)	Criteria met for all compounds. Daily RFs were within 15% from initial RFs.
4/18/96 (22:32)	Criteria met for all compounds except: dichlorodifluoromethane, vinyl chloride, bromomethane, trichlorofluoromethane, 1,1-dichloropropene, dibromomethane, 2-chloroethyl vinyl ether, dibromochloromethane, bromoform and 1,2-dibromo-3-chloropropane. For each of these parameters, the daily RFs were higher than the initial RFs by more than 15%.

No qualification of the data is recommended based on the out of control continuing calibrations. Because the daily calibration response factors were higher than the initial calibration response factors and these parameters were not detected in the environmental samples, the data were considered useable for the project purposes and no further qualification was necessary.

### Blanks:

No contaminants were detected in the laboratory method blank. However, methylene chloride was detected in the field blank at a concentration of 0.55  $\mu$ g/L. Methylene chloride was detected in four of the samples (BP-GW-08000069-041296, BP-GW-01901598-041296, BP-GW-08000095-041296, and BP-GW-08000095(P)-041296) at concentrations greater than the method detection limit and less than 5 times the concentration detected in the field blank. Therefore, the detection limit of methylene chloride should be elevated to the concentration detected in each of these samples and qualify the results with a "UJ-B". No further qualification is necessary based on blank results.

### Surrogates:

Three surrogate spikes (2-chloropropane, 1,4-dichlorobutane and aaa-trifluorotoluene) were added to each environmental sample, blank and QA sample. Control limits were established by laboratory at 75 - 125 % recovery. Criteria were met for each sample.

# Matrix Spike/Matrix Spike Duplicates:

Project QAPjP (Table 3-6) specified control limits for spike recoveries and for RPD between MS and MSD. Criteria met.

# Laboratory Control Sample:

Percent recoveries of 75 - 125 % were specified in QAPjP (Table 3-6) for each analyte. Criteria met.

# Method Detection Limits and Target Compounds:

Method detection limits and target compounds are specified in QAPjP. Based upon the initial and continuing calibrations, it appears that two compounds co-elute on the primary column: 1,1-dichloropropene and 2-chloroethyl vinyl ether. Because the second column analysis was only a qualitative confirmation, the reported concentration should be considered to be less than or equal to the reported concentration as there is no way to attribute the co-eluting concentrations to one parameter or the other. Because there were no positive detections of these two compounds, no action is required and further qualification is not necessary.

<u>Field Duplicates:</u> No split samples were included with this sample batch.

# System Performance:

One performance evaluation (PE) standard was included with this sample batch. The PE sample was purchased from Environmental Resource Associates of Arvada, Colorado, and spiked for five target compounds (carbon tetrachloride, 1,2-dichloroethane, cis-1,2-dichloroethene, tetrachloroethene and trichloroethene) at relatively high concentrations (certified values ranging from 131 to 225  $\mu$ g/L). Percent recoveries for each of these compounds were within the acceptable performance limits of 80 - 120% (specified by ERA). However, three compounds (chloroform, methylene chloride and trans-1,2-dichloroethene) were also detected in the sample that had not been spiked in the PE standard.

Methylene chloride results detected in the environmental samples were previously qualified based on field blank detections. Trans-1,2-dichloroethene was not detected in any of the samples, therefore qualification of this compound is not necessary. Chloroform was detected in one of the samples submitted in the sample batch. Based on the PE results, the positive detection of chloroform should be qualified with a "J".

## Overall Assessment of Volatile Organic Data:

There were minor quality issues with the volatile data. The affected results should be qualified as recommended in the preceding sections. All other data are considered to have completely fulfilled the project objectives.

# Inorganic Data Review (Metals)

(Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Zn, Ca, Mg, K, Na by EPA 6010; As by EPA 7060; Hg by EPA 7470; and Pb by EPA 7421)

Holding Time:

Samples were digested and analyzed within the method-specified holding times. Criteria met.

### Calibration:

a) Initial Calibration

Raw calibration data for ICP analyses were not provided with initial package. Subsequently, requested data from laboratory and received them within one day. A blank and one calibration standard was used in establishing the analytical curve for ICP, which meets method criteria.

A blank and three calibration standards were used to calibrate the GFAA system (arsenic and lead). The correlation coefficient was > 0.995. Criteria met.

A blank and five calibration standards were used to calibrate the cold vapor system (mercury). The correlation coefficient was > 0.995. Criteria met.

b) Standard Solutions (CRI, CRA):

The CRI (ICP) and CRA (GFAA and CV-Hg) solutions were analyzed in the correct sequence and at the proper frequency. Criteria met.

c) Initial Calibration Verification (ICV):

Immediately after initial calibration, the ICV solution was analyzed. Percent recoveries for each analyte were within control limits of 90 - 110% (80 - 120% for mercury). Criteria met.

d) Continuing Calibration Verification (CCV):

Calibration was verified at the beginning of the analytical run, every 10 samples, and at end of run with CCV solution. Percent recoveries for each analyte were within control limits of 90 - 110% (80 - 120% for mercury). Criteria met.

### Blanks

a) Initial Calibration Blank (ICB)/Continuing Calibration Blanks (CCB):

ICB and CCB blanks were analyzed in the correct sequence and at the proper frequency. Barium was detected at a concentration of 0.00182 mg/l and magnesium was detected at 0.0424 mg/l in the ICB solution. Therefore, positive detections for each of these analytes in

the environmental samples that are less than 5 times the blank concentration should be qualified as "U-B".

Metals were not detected in any of the CCB solutions. No further qualification based on CCB results is required.

## b) Preparation Blank (PB):

Lead was detected in the PB at a concentration of 0.001 mg/l; calcium at a concentration of 0.250 mg/l; magnesium at a concentration of 0.260 mg/l; and sodium at a concentration of 0.112 mg/l. All detections of these analytes in the samples that are less than 10 times the respective concentrations detected in the PB should be qualified as "U-B".

# ICP Interference Check Sample (ICS):

An ICP ICS solution was analyzed at the proper frequency and in the correct sequence within the analytical run. Results for the ICS analyses of solution A+B fell within the control limits of 80 - 120% recovery for each of the analytes included in the ICS solution. Criteria met and no qualification is required.

## LCS Analysis:

Percent recoveries for each LCS constituent fell within the required control limits of 80 - 120%. Criteria met.

### **Laboratory Duplicates:**

The RPD between the original sample and its duplicate was less than 20%. Criteria met.

## Spiked Samples:

With the exception of calcium, the spike recovery for each of the analytes was within the control limits of 75 - 125%. Calcium exhibited a low spike recovery, 10%, however, the sample concentration exceeded the spike concentration by more than 4 times. Therefore, no qualification is required based on the out-of-control result.

### Post-Digest Spikes (Analytical Spikes):

Post spike recoveries were within the control limits of 75 - 125% for each analyte analyzed, except for magnesium. Although a post-digestion spike was not required for magnesium, the laboratory reported the recovery for magnesium at 155%. The sample concentration for magnesium exceeded the spike concentration by more than 4 times, therefore no qualification is required.

## ICP Serial Dilution Results:

With the exception of potassium, the percent difference between the initial sample result and the diluted sample result for each analyte was less than 10%. For potassium, the diluted sample results differed from the original determination by 14%. Therefore, it is recommended to flag all positive potassium results with "J-E", based on the serial dilution result. Qualification of other analytes is not required.

## **System Performance:**

One PE standard was included with this sample batch. The PE sample was purchased from ERA and spiked for trace metals. Analysis of the PE standard indicated that concentrations of two metals did not fall within the acceptable performance limits: aluminum and chromium. In the case of aluminum, the PE was spiked at a concentration of 0.229 mg/l. The laboratory reported a non-detectable concentration of aluminum (less than 0.0437). Chromium was spiked in the PE sample at a concentration of 0.241 mg/l. The laboratory reported the chromium concentration at 0.334 mg/l, which corresponds to a recovery of 139%. This exceeds the allowable recovery control limits of 82 - 118% (75 - 118% for mercury and arsenic, specified by ERA). All other analyte concentrations were within the acceptable performance limits.

Based on the PE results, aluminum results should be flagged with a "J" or a "UJ"; positive chromium results should be flagged with a "J".

### Overall Assessment of Metals Data:

There were a few minor quality issues with the metals data. The affected results should be qualified as recommended in the preceding sections. All other data are considered to have completely fulfilled the project objectives.

# Inorganic Data Review (Anions)

(NO₃, NO₂, Cl and SO₄ by EPA 300.0 [ion chromatography])

Validation guidelines are not provided for EPA 300.0. An evaluation of the data was performed using the project QAPjP and the method as guidelines.

## **Holding Time:**

48-hour holding time for nitrate and nitrite. 28-day holding time for chloride and sulfate. Criteria met.

## Calibration:

### a) Initial Calibration:

A minimum of a blank and three initial calibration standards are required for the method. Calibration information was provided, however, chromatograms for only the mid-level standard were initially provided. Subsequent information provided by the laboratory confirmed that a blank and three calibration standards were used for each anion. Therefore, no qualification of these data are required. Criteria met.

### b) Initial Calibration Verification:

Initial calibration was verified for nitrate, nitrite and sulfate. Recoveries were within control limits of 90 - 110%. The chloride concentration in the ICV solution was greater than the top end of the calibration curve. There is no evidence of the solution being diluted to bring chloride within the linear range of the calibration curve. However, the ICV solution was subsequently diluted and analyzed at a later position (18 samples later). The chloride results of the diluted ICV solution were within 90 - 110%. Although the dilution should have been performed and analyzed earlier in the analytical run, the chloride results will not be flagged based on this issue alone. Therefore, no qualification of the chloride, nitrate, nitrite or sulfate is recommended based on the ICV results.

# c) Continuing calibration verification:

CCV solutions were analyzed at the proper frequency and in the correct sequence. Recoveries were within the control limits of 90 - 110%. Criteria met.

### Blanks:

### a) Initial calibration blank:

There were no analyte detections in the ICB at concentrations greater than the reported detection limits. Criteria met.

# b) Continuing calibration blanks:

There were no analyte detections in the CCB at concentrations greater than the reported detection limits. CCBs were analyzed at the proper frequency and in the correct analytical sequence. Criteria met.

### c) Method blank:

There were no analyte detections in the method blank at concentrations greater than the reported detection limits. Method blanks were analyzed at the proper frequency and in the correct analytical sequence. Criteria met.

# **Laboratory Control Sample:**

The LCS satisfied the recovery criteria of 90 - 110% for the four analytes.

## Matrix Spike and Matrix Spike Duplicate:

An MS and MSD were analyzed with the batch of samples. Results of the MS/MSD analyses indicate that chloride, nitrite and sulfate spike and spike duplicate recoveries were within the acceptable range of 80 - 120%. The spike and spike duplicate recoveries for nitrate were 78 and 77%, respectively, which is slightly lower than the acceptable recovery range. Based on these results, a matrix effect may be suspected. However, the LCS recovery for nitrate was within range.

With the exception of chloride, the RPD between the MS and the MSD meet the criteria of less than 20%. The RPD for chloride was reported at 33%. The RPD between the LCS and its duplicate was 0%. Based on these data, no action is recommended and qualification is not required.

## **System Performance:**

One PE standard was included with this sample batch. The PE sample was purchased from ERA and spiked for chloride and sulfate. The PE sample was not spiked for nitrate and nitrite due to their short holding times. Analysis of the PE standard indicated that the reported value for chloride (140 mg/l) was within the control limits of 91 - 106% (specified by ERA); however the recovery for sulfate, 76%, was below the acceptable performance range of 86 - 114%.

Based on the PE results, it is recommended to flag the sulfate results with a "J". No action is recommended for chloride, nitrate or nitrite.

## Overall Assessment of Anion Data:

Based on this review, it is recommended that sulfate results in this data package be qualified as estimated values and flagged with a "J".

# Inorganic Data Review (Miscellaneous Parameters)

(Alkalinity by EPA 310.1, Hardness by EPA 130.2, TDS/TSS by EPA 160.1/160.2 and Radon by Draft Method 913)

Validation guidelines are not provided for these methods. An evaluation of the data was performed using the project QAPjP and the applicable methods as guidelines.

## **Holding Times:**

Samples were analyzed within the method required holding times specified for each of the analytes. Criteria met.

### Blanks:

No contaminants were detected in the method blanks for the hardness or alkalinity analyses. No action is required.

LCS:

An LCS was analyzed with the hardness and alkalinity analyses. LCS recovery for each of the methods was within the control limit of 90 - 110%. No action is required.

MS:

One sample was spiked for the alkalinity analysis. Spike recovery was within the acceptable range of 80 - 120%. No action is required.

## **Laboratory Duplicates:**

One duplicate analyses was performed for each of the analyses: TDS, TSS, alkalinity, hardness and radon. The relative difference between the original sample and the duplicate for each of the aforementioned analyses was within the control limits of  $\pm 20\%$ . No action is required.

## **System Performance:**

One PE standard was included with this sample batch. The PE sample was purchased from ERA and spiked for hardness, alkalinity (as CaCO₃), TDS and TSS. Analysis of the PE standard indicated that the reported values for alkalinity and TDS were with the acceptable performance limits. However, the values determined for TSS and hardness were not within the acceptance limits. For TSS, the certified value was 109 mg/l; the laboratory reported ND less than 10 mg/l. For total hardness (as CaCO₃), the certified value was 278 mg/l; the laboratory reported a concentration of 12 mg/l.

Based on the PE results, it is recommended to flag the hardness and TSS results as "J" or "UJ".

## Overall Assessment of Miscellaneous Parameter Data:

Based on the results of the PE standard, the TSS and hardness data should be considered estimated values and flagged with "J" or "UJ". All other data are considered to have completely fulfilled the project objectives.

## **Baldwin Park Operable Unit**

# Summary of Groundwater Analytical Results **MW5-18**

Weil ID		MW51803	MW51802	MW51801	MW51803N
Sample Depth (feet bgs)		500 - 510	630 - 640	780 - 790	
Sample Date		3-Jun-96	3-Jun-96	3-Jun-96	3-Jun-96
Sample Type ¹		GW	GW	GW	N
EPA Method 8021 ²	MCL ³				
Benzene	1	0.21	ND<0.090	ND<0.090	ND<0.090
Carbon tetrachloride	0.5	1.0	1.0	1.6	ND<0.28
Chlorobenzene	70	ND<0.14	ND<0.14	ND<0.14	ND<0.14
Chloroform	100 ^b	3.6	0.77	0.33	ND<0.24
1,1-Dichloroethane	5	0.86	0.19	ND<0.19	ND<0.19
1,2-Dichloroethane	0.5	0.89	ND<0.22	ND<0.22	ND<0.22
1,1-Dichloroethene	6	16	5.2	0.27	ND<0.21
cis-1,2-Dichloroethene	6	12	5.8	0.43	ND<0.17
trans-1,2-Dichloroethene	10	ND<0.17	ND<0.17	ND<0.17	ND<0.17
Methylene chloride	40 a	0.51 B	ND<0.29	ND<0.29	ND<0.29
1,1,1,2-Tetrachloroethane	-	ND<0.21	ND<0.21	ND<0.21	ND<0.21
Tetrachloroethene	5	240	240	15	ND<0.29
Toluene	150	ND<0.13	ND<0.13	ND<0.13	ND<0.13
1,1,1-Trichloroethane	200	3.2	1.1	ND<0.26	ND<0.26
1,1,2-Trichloroethane	5	ND<0.27	ND<0.27	ND<0.27	ND<0.27
Trichloroethene	5	280	320	18	ND<0.22

### Notes:

All concentrations for EPA method 8021 are in µg/l.

GW = Groundwater sample

K = Duplicate (split) sample

N = Equipment decontamination blank

ND = Not detected at a concentration greater than the limit indicated.

bgs = below ground surface

-- No Standard

B = Also detected in laboratory's method blank

¹ Sample Type:

² Only compounds detected in one or more samples are listed.

³ California Maximum Contaminant Level (as of 12/95)

^{*} California Action Level

^b Federal MCL

# Certification

Camp Dresser & McKee Inc.

**Quality Control Standards** 

Catalog Nº

093

Lot NO 0329-96-01

<u>Parameter</u>	Certified Value	Performance Acceptance Limits™ (µg/L)
Carbon Tetrachloride 1,2-Dichloroethane cis-1,2-Dichloroethylene	211 169 225	154-266 130-211 138-308
Tetrachloroethylene Trichloroethylene	186 131	137-227 97.5-159

Standard Preparation Instructions: None required; standard is ready for preparation and/or analysis as received.

Preservative: HCl.

Storage: Store at 4°C.

Performance Acceptance Limits (PALsTM) are listed as guidelines for acceptable analytical results given the limitations of the USEPA methodologies commonly used to determine these parameters and closely approximate the 95% confidence interval. The PALsTM are based on analytical verification data generated by ERA, independent referee laboratory results and data from USEPA methods, WP, WS and CLP interlaboratory studies. If your result falls outside of the PALTM, ERA recommends that you investigate potential sources of error in your preparation and/or analytical procedures. For further technical assistance, call ERA at 1-800-372-0122.

Prepared By: MEB

Reviewed By: FEL

Date: 4/10/96

Date: 4/10/96



# Certification

# WasteWatR™

Quality Control Standards

Catalog Nº WW-11

Lot Nº 9970

Parameter	Certified Value	•	Performance Acceptance Limits™	
MINERALS WasteWatR™ (Catalog No. 506)	mg/l		mg/l	
total solids at 105°C	913		794 - 1030	
total dissolved solids at 180°C	913		794 - 1030	
conductivity at 25°C	1220	umhos	1040 - 1400 umhos	
alkalinity as CaCO ₃	180		160 - 200	
chloride	138		128 - 148	
fluoride	10.6		9.01 - 12.2	
sulfate	124		107 - 141	
potassium	123		105 - 141	
sodium	173		147 - 199	
pH .	9.09	S.U.	8.89 ~ 9.29 S.U.	
HARDNESS WasteWatR™	mg/l		mg/l	
(Catalog No. 507)	•		•	
total suspended solids	109		92.7 - 125	
calcium	60.6		52.1 - 69.1	
magnesium	30.8		26.5 - 35.1	
calcium hardness as CaCO ₃	151		130 - 172	
total hardness as CaCO ₃	278		239 - 317	
GREASE & OIL WasteWatR™ (Catalog No. 504) grease & oil (gravimetric) grease & oil (infrared)	55.0 66.0	mg/btti mg/btti	33.0 - 68.8 mg/bttl 39.6 - 82.5 mg/bttl	
TRACE METALS WasteWatR™	µg/I		þg/l	
(Catalog No. 500) aluminum	229		188 - 270	
antimony	64.7		48.5 - 80.9	
arsenic .	76.5		57.4 - 90.3	
barium	388		318 - 458	
beryllium	124		102 - 146	
boron	283		232 - 354	
cadmium	95.9		78.6 - 113	
chromium	241		198 - 284	
cobalt	212		174 - 250	
copper	118		96.8 - 139	
iron	471		386 - 556	
lead	132		108 - 156	
manganese	188		154 - 222	
mercury	10.6 129		7.95 - 13.3	
molybdenum nickel	406		106 - 152 333 - 479	
selenium	97.1		72.8 - 115	
silver	61.8		50.7 - 72.9	
strontium	207		170 - 244	
thallium	64.7		48.5 - 80.9	
vanadium	189		155 - 223	
zinc	221		181 - 261	
			continued on back	

DATA VALIDATION FOR: Halogenated and Aromatic Volatile

Compounds using SW-846 Method 8021

PROJECT CONTACT: Suzanne Rowe

SITE: Baldwin Park Operable Unit Pre-Remedial

Design Program

**SDG NO:** L3547

CONTRACT LAB: Thermo Analytical, Santa Ana, California

REVIEWER: Krista Lippoldt, CDM Federal

DATE REVIEW COMPLETED: October 4, 1996

MATRIX: Water

Data validation was performed following the guidelines in Test Methods for Evaluating Solid Waste Physical/Chemical Methods, SW-846, 3rd Edition (SW-846) dated January 1990 with current revisions and the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, November 1988 with current revisions. All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "UJ" (non-detect with an estimated detection limit), or "R" (unusable). The data assessment is discussed in detail on the attached sheets.

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. Results qualified with an "R" should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Eight water samples (listed below) were collected at wells MW5-18 and MW5-15 in the Baldwin Park Operable Unit on July 9, 1996 and shipped to Thermo Analytical. These samples were analyzed for halogenated and aromatic volatile compounds using SW-846 Method 8021.

BP-GW-MW51801-070996

BP-GW-MW51802-070996

BP-GW-MW51803-070996

BP-GW-MW51501-070996

BP-GW-MW51502-070996

BP-GW-MW51502N-070996 (EQUIPMENT RINSATE BLANK)

BP-GW-MW51503-070996

BP-GW-MW51503K-070996 (DUPLICATE SAMPLE)

Organic Data Review L3547

### DATA ASSESSMENT

#### I. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may be biased low, therefore, the positive results of a sample whose holding time has been exceeded may be qualified as estimated, "J". The results of the analytes not detected in the sample may be qualified as estimated, "J", or unusable, "R" (if the holding times are grossly exceeded).

The samples were analyzed within prescribed holding times.

### II. GC/MS INSTRUMENT PERFORMANCE CHECK

Not applicable.

### III. CALIBRATION

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

The response factor measures the instrument's response to specific chemical compounds. The response factor must be  $\geq 0.05$  in both the initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). If the mean response factor (RRF) of the initial calibration or the continuing calibration is < 0.05 for any analyte, those analytes detected in the associated samples may be qualified as estimated, "J". The results for all analytes that were not detected may be rejected, "R".

Percent relative standard deviation (%RSD) is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent difference (%D) compares the response factor of the continuing calibration check to the RRF from the initial calibration. %D is a measure of the instrument's daily performance. %RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, the positive results for samples associated with an %RSD or %D that was above the acceptable limits may be qualified as estimated, "J", and the results for the analytes not detected may be qualified as non-detects with estimated detection limits, "UJ". Non-detects may be used without any qualification if %RSD is >30 based on professional judgement. If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified as unusable, "R".

### IIIA. INITIAL CALIBRATION

All listed RRFs were  $\ge 0.05$ . The values listed as RRFs may be area counts; data were not present to verify the RRF values. All %RSDs were <30% except the following:

Organic Data Review L3547

DATE	CRITERIA OUTSIDE OF LIMITS	COMPOUND	VALUE OF CRITERIA	Sample (S) Affected
7/12/96	*RSD	Dibromomethane Dibromochloromethane 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane Bromoform	49 55 52 57 62	None None None None None

This initial calibration dated 7/12/96 is associated with the diluted analyses only. The compounds with criteria outside of the acceptable limits were not detected in the undiluted sample and, therefore, the diluted results were not reported. No results were qualified.

#### IIIB. CONTINUING CALIBRATION

All listed RRFs were ≥0.05. The values listed as RRFs may be area counts; data were not present to verify the RRF values. All %Ds were <25% except the following:

DATE	TIME	CRITERIA OUTSIDE OF LIMITS	СОМРОТИП	VALUE OF CRITERIA	Sample (S) Approted
7/10/96	2:23PM	%D	Chloromethane	42	None
7/11/96	2:16AM	<b>%</b> D	Chloromethane	51	BP-GW-MW51501-070996 BP-GW-MW51502-070996 BP-GW-MW51502N-070996 BP-GW-MW51503-070996 BP-GW-MW51503K-070996
7/11/96	3:22PM	%D	Chloromethane	46	None
7/12/96	9:58PM	%D	Chloromethane Dibromomethane 1,2-Dibromo-3- chloropropane 1,2- Dibromoethane	31 51 28 60	None
			Bromoform	30	

Due to the 7/11/96 calibration deficiencies, the chloromethane results for samples BP-GW-MW51501-070996, BP-GW-MW51502-070996, BP-GW-MW51503-070996, and BP-GW-MW51503K-070996 were qualified as non-detects with estimated detection limits, "UJ".

### IV. BLANK CONTAMINATION:

Quality assurance (QA)/QC blank samples, i.e., method, trip, field, or equipment rinsate blanks, are prepared to identify any contamination which may have been introduced into the samples during sample preparation, shipping, or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and equipment rinsate blanks measure cross-contamination of samples during field procedures. If the concentration of an analyte detected in a sample is less than 5 times the concentration detected in a blank sample (10 times for the common contaminants), the sample result may be qualified as non-detect, "U".

### IVA. METHOD BLANKS

No analytes were detected in any of the method blanks.

### IVB. TRIP BLANKS

A trip blank was not analyzed with this sample group.

### IVC. EQUIPMENT RINSATE BLANKS

The following analytes were detected in the equipment rinsate blank, BP-GW-MW-51502N-070996:

MATRIX	COMPOUND	CONCENTR ATION (µg/L)	ACTION LEVEL (µg/L)	Sample (S) Affected
Water	Toluene	0.15	0.75	BP-GW-MW51502-070996 BP-GW-MW51503K-070996

Due to the equipment rinsate blank contamination, the toluene results for samples BP-GW-MW51502-070996 and BP-GW-MW51503K-070996 were qualified as non-detects, "U".

### V. SURROGATES/SYSTEM MONITORING COMPOUNDS

All samples are spiked with surrogate/system monitoring compounds (SMC) compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured percent recovery (%R) of a surrogate/SMC was outside criteria, the results of that sample may be qualified as estimated, "J" or non-detects with estimated detection limits, "UJ".

2-Chloropropane, 1,4-dichlorobutane, and a,a,a-trifluorotoluene were added to each sample as surrogates. All %Rs were within the acceptable control limits.

## VI. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix spike/matrix spike duplicate (MS/MSD) data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD results may be used in conjunction with other QC criteria for some additional qualification of data.

All %Rs and RPDs were within the acceptable ranges.

### VII. LABORATORY CONTOL SAMPLES

Laboratory control sample (LCS) data are generated to determine the long-term precision and accuracy of the analytical method. The LCS may be used in for some qualification of data.

All %Rs and RPDs were within the acceptable ranges.

### VIII. REGIONAL QUALITY ASSURANCE AND QUALITY CONTROL

Sample BP-GW-MW51503K-070996 was collected as a field duplicate sample of BP-GW-MW51503-070996. The following analytes were detected in at least one of the samples:

Organic Data Review L3547

COMPOUND	SAMPLE CONC. (µg/L)	DUP. CONC. (µg/L)	RPD	SAMPLE(S) AFFECTED
1,1-Dichloroethene	5.8	5.2	4	None
1,1-Dichloroethane	0.57	0.5	49	None
cis-1,2- Dichloroethene	13	11	3	None
Chloroform	1.0	0.93	15	None
Carbon Tetrachloride	0.33	0.33	0	None
Trichloroethene	61	60	0	None
Tetrachloroethene	17	15	2	None
Toluene	0.110	0.18	NC	None
0-Xylene	0.110	0.12	NC	None
Styrene	0.110	0.11	NC	None

NC = Not Calculated.

One RPD was above the acceptable criteria  $(\pm 35\%)$  and three analytes were detected in only one of the samples. Based on professional judgement, the associated results were not qualified because the detected results were near the quantitation limit.

### IX. INTERNAL STANDARDS

Internal Standard (IS) performance criteria ensure that the gas chromatograph (GC) sensitivity and response are stable during every experimental run. The IS area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the IS must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to -100%) range of the associated standard, the positive results for compounds quantitated using that IS may be qualified as estimated, "J", and the non-detects may be qualified as non-detects with estimated detection limits, "UJ". Non-detects may be qualified as "R" if there is a severe loss of sensitivity ( < 25% of associated IS area counts).

Internal Standards were not analyzed and, therefore, no assessment was made.

### X. COMPOUND IDENTIFICATION

Target compound list (TCL) compounds are identified on the GC by using the analyte's relative retention time (RRT). For the results to be a positively identified, the sample peak must be within  $\pm~0.06$  RRT units of the standard compound.

All RRTs were within ± 0.06 units of the standard compounds.

XI. COMPOUND QUANTITATION AND REPORTED CONTRACT-REQUIRED QUANTITATION LIMITS

ISs were not analyzed and, therefore, calculations could not be verified. Non-detect results were not reported for the diluted samples and, therefore, contract-required quantitation limit (CRQL) adjustment for dilution could not be

verified.

### XII. TENTATIVELY IDENTIFIED COMPOUNDS

Not Applicable.

## XIII. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The system performance was acceptable. A summary of the overall assessment of the data is provided on the next page.

## ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE Baldwin Park OU	LABORATORY_	Thermo Ana	lytical	
SDG NO. <u>L3547</u>	DATA USER _	CDM		
REVIEW COMPLETION DATE 10	/04/96			
NO. OF SAMPLES 8 WATE	RSOII	ro	HER N/A	
REVIEWER [ ] ESD [ ] ESAT	[ ] OTHER,	CONTRACT/C	CONTRACTOR	
	VOA	BNA	PEST	OTHER
1. HOLDING TIMES 2. GC/MS INSTRUMENT PERF. 3A. INITIAL CALIBRATIONS 3B. CONTINUING CALIBRATION 4. BLANKS 5. SURROGATES 6. MS/MSD 7. LCS/LCSD 8. REGIONAL QC 9. INTERNAL STANDARDS 10. COMPOUND IDENTIFICATION 12. COMPOUND QUANTITATION	X O O O O O O O O O O O O O O O O O O O			
13. SYSTEM PERFORMANCE 14. OVERALL ASSESSMENT				

O = No problems or minor problems that do not affect data usability.

X = No more than about 5% of the data points are qualified as either estimated or unusable.

NA = Not applicable.

ND = No data available.

DATA VALIDATION FOR: Nitrate/Nitrite using EPA Method 300.0

PROJECT CONTACT: Suzanne Rowe

SITE: Baldwin Park

**SDG NO:** L3547

CONTRACT LAB: Thermo Analytical, Santa Ana, California

REVIEWER: Krista Lippoldt, CDM Federal

DATE REVIEW COMPLETED: October 10, 1996

MATRIX: Water

Data validation was performed following the guidelines in Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983 with current revisions and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, November 1988 with current revisions. All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detect), "UJ" (non-detect with an estimated detection limit), or "R" (unusable). The data assessment is discussed in detail on the attached sheets.

Four water samples (listed below) were collected from well MW5-15 in the Baldwin Park Operable Unit on July 9, 1996 and shipped to Thermo Analytical. These samples were analyzed for nitrate and nitrite using EPA Method 300.0

BP-GW-MW51501-070996 BP-GW-MW51502-070996

BP-GW-MW51503-070996

BP-GW-MW51503K-070996 (DUPLICATE SAMPLE)

#### I. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may be biased low, therefore, the positive results of a sample whose holding time has been exceeded may be qualified as estimated, "J". The results of the analytes not detected in the sample may be qualified as estimated, "J", or unusable, "R" (if the holding times are grossly exceeded).

The samples were analyzed within prescribed holding times.

#### II. CALIBRATION

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

For EPA Method 300.0, the instrument must be calibrated daily using a minimum of a blank and three standards. An initial calibration verification (ICV) is required immediately after daily calibration and a continuing calibration verification (CCV) is required at a frequency of 10 percent (%) and at the end of the an analytical run, whichever is more frequent. The ICV response or retention time of each analyte must agree with the expected value by ± 10 percent. The % R of the CCV must be within 90 to 100 percent. If the response is outside of the acceptable range, the result of that analyte in the associated sample(s) may be qualified as estimated, ""J", non-detect with an estimated detection limit, "UJ", or unusable, "R".

### IIA. INITIAL CALIBRATION

An initial calibration was performed with a blank and three standards. ICV responses for nitrate was within 10 percent of the true value. ICV response for nitrite was 83 percent, which is lower than the method specified limit of 90-110 percent; however, the nitrite recovery was within the acceptance limits provided by an independent source of the ICV. Because the CCVs were within acceptable limits, and the ICV was within a range considered acceptable by the ICV source, it is the reviewer's professional judgement that the nitrite data should not be qualified.

### IIB. CONTINUING CALIBRATION

CCVs were analyzed at the appropriate frequency and in the correct analytical sequence. Percent recovery for nitrate and nitrite were within acceptable limits of 90 to 110 percent.

### III. BLANK CONTAMINATION

Quality assurance (QA)/QC blank samples, i.e., method, field, or equipment rinsate blanks, are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method

Wet Chemistry Data Review L3547

blanks measure laboratory contamination. Field and equipment rinsate blanks measure cross-contamination of samples during field procedures. If the concentration of an analyte detected in a sample is less than 5 times the concentration detected in a blank sample, the sample result may be qualified as non-detect, "U".

#### IIIA. METHOD BLANKS

Neither nitrate or nitrite were detected in the method blank.

#### IIIB. FIELD BLANKS

A field blank was not analyzed for nitrate or nitrite.

### IIIC. EQUIPMENT RINSATE BLANKS

An equipment rinsate blank was not analyzed for nitrate or nitrite.

### IV. LABORATORY CONTOL SAMPLES

The laboratory control sample (LCS) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. All aqueous LCS %Rs must be within 80-120% and all RPDs must be within 0-20%. If the %Rs or RPDs do not fall within the acceptable limits, sample results may be qualified.

All %Rs and RPDs were within the acceptable limits.

### V. DUPLICATE SAMPLE ANALYSIS

Laboratory duplicate sample determinations are used to demonstrate acceptable method precision by the laboratory at the time of analysis. Laboratory duplicate analyses are also performed to gernerate data in order to determine the long-term precision of the analytical method on various matrices. If the RPDs of the laboratory duplicate analyses are not within  $\pm$  20% (35% for soils) for results  $\geq$  5 times the contract-required detection limit (5xCRDL) or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

No data were provided for laboratory duplicate analyses.

### VI. SPIKE SAMPLE ANALYSIS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. If the %Rs of the spiked sample (matrix spike [MS]) do not fall between 75-125% or the RPDs of the duplicate results do not fall between ± 20%, the associated sample results may be qualified and a post-digestion spiked sample (PDS) is required for all analytes. The acceptable control limits for the PDS %Rs is also 75-125%, but the data from the PDS is not used to qualify data.

All %Rs and RPDS were within the acceptable control limits.

### VII. FIELD DUPLICATES

Field duplicate samples may be collected and analyzed as an indication of overal

Wet Chemistry Data Review L3547

precision. These analyses measure both field and laboratory precision; therefore, the results may have more variability than laboratory duplicates which measure only laboratory performance. If the RPDs of the field duplicate analyses are not within  $\pm$  30% (50% for soils) for results  $\geq$  5xCRDL or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

Sample BP-GW-MW51503K-070996 was collected as the duplicate of sample BP-GW-51503K-070996. The following analytes were detected in at least one of the samples:

COMPOUND	CRDL (mg/L)	5xCRDL (mg/L)	SAMPLE CONC (mg/L)	DUP CONC (mg/L)	QC CONTROL LIMITS	Sample (S) Affected
Nitrate	0.25	1.25	2.6	2.6	RPD=0	None

All field duplicate results met criteria.

### VIII. OVERALL ASSESSMENT

A summary of the overall assessment of the data is provided on the following page.

# INORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE Baldwin Park OU	LABORATORY Thermo Analytical
SDG NO. <u>L3547</u>	DATA USER _CDM
REVIEW COMPLETION DATE _10/10	/96
NO. OF SAMPLES 4 WATER	SOIL OTHER N/A
REVIEWER [ ] ESD [ ] ESAT [ ]	OTHER, CONTRACT/CONTRACTOR
	METALS WET CHEMISTRY
1. HOLDING TIMES 2A. INITIAL CALIBRATIONS 2B. CONTINUING CALIBRATIONS 3A. LAB BLANKS 3B. FIELD BLANKS 3C. RINSATE BLANKS 4. INTERFERENCE CHECK SAMPLE 5. LCS 6. LAB DUPLICATE 7. SPIKE SAMPLES 8. GFAA QC 9. ICP SERIAL DILUITION 10. FIELD DUPLICATES 11. OVERALL ASSESSMENT	O O O O O O O O O O O O O O O O O O O
O = No problems or minor probusability.	lems that do not affect data
<pre>X = No more than about 5% of either estimated or unusable.</pre>	the data points are qualified as
NA = Not applicable.	

Wet Chemistry Data Review L3547

ND = No data available.

DATA VALIDATION FOR: Halogenated and Aromatic Volatile

Compounds using SW-846 Method 8021

PROJECT CONTACT: Suzanne Rowe

SITE: Baldwin Park Operable Unit Pre-Remedial

Design Groundwater Monitoring Program

**SDG NO:** L3551

CONTRACT LAB: Thermo Analytical, Santa Ana, California

REVIEWER: Krista Lippoldt, CDM Federal

DATE REVIEW COMPLETED: October 8, 1996

MATRIX: Water

Data validation was performed following the guidelines in the Test Methods for Evaluating Solid Waste Physical/Chemical Methods, SW-846, 3rd Edition (SW-846) dated January 1990 with current revisions, and the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, November 1988 with current revisions. All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "UJ" (non-detect with an estimated detection limit), or "R" (unusable). The data assessment is discussed in detail on the attached sheets.

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. Results qualified with an "R" should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Three water samples (listed below) were collected at the Paddy Lane Well site on July 12, 1996 and shipped to Thermo Analytical. These samples were analyzed for halogenated and aromatic volatile compounds using SW-846 Method 8021.

BP-GW-01900031-070996

BP-GW-01900031K-070996 (DUPLICATE SAMPLE)

BP-GW-01900031F-070996 (FIELD BLANK)

#### DATA ASSESSMENT

#### I. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may be biased low, therefore, the positive results of a sample whose holding time has been exceeded may be qualified as estimated, "J". The results of the analytes not detected in the sample may be qualified as estimated, "J", or unusable, "R" (if the holding time is grossly exceeded).

The samples were analyzed within prescribed holding times.

# II. GC/MS INSTRUMENT PERFORMANCE CHECK

Not required under SW-846 Method 8021.

#### III. CALIBRATION

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

The response factor measures the instrument's response to specific chemical compounds. The response factor must be  $\geq 0.05$  in both the initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). If the mean response factor (RRF) of the initial calibration or the continuing calibration is <0.05 for any analyte, those analytes detected in the associated samples may be qualified as estimated, "J". The results for all analytes that were not detected may be rejected, "R".

Percent relative standard deviation (RSD) is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent difference (%D) compares the response factor of the continuing calibration check to the RRF from the initial calibration. %D is a measure of the instrument's daily performance. %RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results for samples associated with an %RSD or %D that were above the acceptable limits may be qualified as estimated, "J" and the results for the analytes not detected may be qualified as non-detects with estimated detection limits, "UJ". Non-detects may be used without any qualification if the %RSD is >30 based on professional judgement. If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified as unusable, "R".

## IIIA. INITIAL CALIBRATION

All listed RRFs were ≥0.05. The values listed as RRFs may be area counts, data were not present to verify the RRF values. All %RSDs were <30% except the following:

Organic Data Review L3551

DATE	CRITERIA OUTSIDE OF LINITS	COMPOUND	VALUE OF CRITERIA	SAMPLE (S) AFFECTED
7/12/96	*RSD	Dibromomethane Dibromochloromethane	49 55	None BP-GW-01900031-071296, BP-GW-01900031K-071296, BP-GW-01900031F-091296
		1,2-Dibromoethane	57	Same as above
		Bromoform 1,2-Dibromo-3-	62	Same as above
		chloropropane	52	Same as above
7/25/96	%RSD	Bromomethane	51	None

The initial calibration dated 7/12/96 was only associated with the undiluted analyses. Due to gross calibration discrepancies, dibromochloromethane, 1,2-dibromoethane, bromoform, 1,2-dibromo-3-chloropropane in samples BP-GW-01900031-071296, BP-GW-01900031K-071296, and BP-GW-01900031F-091296 were qualified as non-detects with estimated detection limits, "UJ".

The initial calibration dated 7/25/96 is associated with the diluted analyses. Bromomethane was not detected in the undiluted sample and, therefore, the diluted results were not reported or qualified.

#### IIIB. CONTINUING CALIBRATION

All listed RRFs were  $\geq 0.05$ . The values listed as RRFs may be area counts; data were not present to verify the RRF values. All %Ds were <25% except the following:

DATE	TIME	CRITERIA OUTSIDE OF LIMITS	COMPOUND	VALUE OF CRITERIA	Sample (S) Affected
7/12/96	9:58PM	%D	Chloromethane Dibromochloromethane	31 51	None BP-GW-01900031-071296, BP-GW-01900031K-071296, BP-GW-01900031F-091296
			1,2-Dibromoethane Bromoform 1,2-Dibromo-3- chloropropane	60 30 28	Same as above None None
7/13/96	11:02AM	%D	Chloromethane 2,2-Dichloropropane Dibromochloromethane 1,2-Dibromoethane 1,1,2,2- Tetrachloroethane	67 53 39 32 31	None None None None
7/26/96	1:14AM	<b>%</b> D	Bromomethane	37	None

Due to the 7/12/96 calibration deficiencies, the dibromochloromethane and 1,2-dibromoethane results for samples BP-GW-01900031-071296, BP-GW-01900031K-071296, and BP-GW-01900031F-071296 were qualified as non-detects with estimated detection limits, "UJ". The calibration dated 7/13/96 is not associated to any of the samples in the sample package being assessed.

The continuing calibration dated 7/26/96 is associated with the diluted analyses.

Chloromethane and 2,2-dichloropropane were not detected in the undiluted analyses and, therefore, the diluted results were not reported or qualified.

#### IV. BLANK CONTAMINATION

Quality assurance (QA)/QC blank samples, i.e., method, trip, field, or equipment rinsate blanks, are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and equipment rinsate blanks measure cross-contamination of samples during field procedures. If the concentration of an analyte detected in a sample is less than 5 times the concentration detected in a blank sample (10 times for the common contaminants), the sample result may be qualified as non-detect, "U".

### IVA. METHOD BLANKS

No analytes were detected in any of the method blanks.

#### IVB. TRIP BLANKS

A trip blank was not analyzed with this sample group.

#### IVC. FIELD BLANKS

The following analytes were detected in the field blank, BP-GW-01900031F-071296:

MATRIX	CONFOUND	CONCENTR ATION (µg/L)	ACTION LEVEL (µg/L)	Sample (S) Affected
Water	Toluene	0.16	0.80	BP-GW-01900031-071296, BP-GW-01900031K-071296

Due to the equipment rinsate blank contamination, the toluene results for samples BP-GW-01900031-071296 and BP-GW-01900031K-071296 were qualified as non-detects, "U".

## V. SURROGATES/SYSTEM MONITORING COMPOUNDS

All samples are spiked with surrogate/system monitoring compounds (SMC) compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured percent recovery (%R) of a surrogate/SMC is outside criteria, the results of that sample may be qualified as estimated, "J" or non-detects with estimated detection limits, "UJ".

2-Chloropropane, 1,4-dichlorobutane, and a,a,a-trifluorotoluene were added to each sample as surrogates. All %Rs were within the acceptable control limits except the following:

DATX	SURROGATE	4R	QC Limits	SAMPLE SPIKED
7/26/96	2-Chloropropane	67	75-125	Matrix Spike (MS)
	A,A,A-Trifluorotoluene	71	75-125	MS

MS results are not qualified as part of data validation and, therefore, no action was taken.

# VI. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/matrix spike duplicate (MSD) data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD results may be used in conjunction with other QC criteria for some additional qualification of data.

All %Rs and RPDs were within the acceptable ranges.

# VII. LABORATORY CONTOL SAMPLES

Laboratory control sample (LCS) data are generated to determine the long-term precision and accuracy of the analytical method. The LCS results may be used for some qualification of data.

All %Rs and RPDs were within the acceptable ranges.

# VIII. REGIONAL QUALITY ASSURANCE AND QUALITY CONTROL

Sample BP-GW-01900031K-071296 was collected as a duplicate sample of BP-GW-01900031-071296. The following analytes were detected in at least one of the samples:

COMPOUND	SAMPLE CONC.	DUP. CONC.	RPD	Sample (S) Affected
Dichlorodifluoromethane	(μg/L) 6.2	(µg/L) 6.2	0	None
Trichlorofluoromethane	0.62	0.51	19	None
1,1-Dichloroethene	5.2	5.5	6	None
trans-1,2-Dichloroethene	0.18	0.2	11	None
1,1-Dichloroethane	03.2	3.2	0	None
cis-1,2-Dichloroethene	15	16	6	None
Chloroform	5.7	5.8	2	None
1,1,1-Trichloroethane	0.79	0.49	47	None
Carbon Tetrachloride	4.0	3.9	3	None
1,2-Dichloroethane	3.8	4.0	5	None
Trichloroethene	130	120	8	None
Tetrachloroethene	19	19	0	None
Toluene	0.18	0.16	12	None
o-Xylene	0.18	0.11	48	None
Styrene	0.14	0.11	24	None
Isopropylbenzene	0.17	0.09ΰ	NC	None
1,3,5-Trimethylbenzene	0.13	0.13	21	None
tert-Butylbenzene	0.3	0.150	NC	None

COMPOUND	SAMPLE CONC. (µg/L)	DUP. CONC. (µg/L)	RPD	Sample (S) Affected
1,2,4-Trimethylbenzene	0.18	0.17	6	None
sec-Butylbenzene	0.16	0.13	21	None
n-Butylbenzene	0.12	0.16	29	None
Naphthalene	ο.370	0.93	NC	None

NC = Not Calculated.

Two RPDs were above the acceptable criteria  $(\pm 35\%)$  and three analytes were detected in only one of the samples. Based on professional judgement, the associated results were not qualified because the detected results were near the quantitation limit.

#### IX. INTERNAL STANDARDS

Internal standard (IS) performance criteria ensure that the GC sensitivity and response are stable during every experimental run. The IS area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the IS must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to -100%) range of the associated standard, all of the positive results for compounds quantitated using that IS may be qualified as estimated, "J", and all non-detects may be qualified as non-detects with estimated detection limits, "UJ". Non-detects may be qualified as unusable, "R", if there is a severe loss of sensitivity (< 25% of associated IS area counts).

ISs were not analyzed and, therefore, no assessment was made.

## X. COMPOUND IDENTIFICATION

Target compound list (TCL) compounds are identified on the GC by using the analyte's relative retention time (RRT). For the results to be a positively identified, the sample peak must be within  $\pm$  0.06 RRT units of the standard compound. If the RRT value is not within the acceptable range, the associated results may be qualified as non-detects, "U".

All RRTs were within ± 0.06 units of the standard compounds except the following:

SAMPLE WITH RRT VALUES OUTSIDE OF CRITERIA	COMPOUND	RRT	Sample (S) Affected
BP-GW-01900031-071296	1,1,1-Trichloroethane	-0.065	None
	Carbon Tetrachloride	-0.072	None
BP-GW-01900031K-071296	1,1,1-Trichloroethane	-0.066	None
	Carbon Tetrachloride	-0.071	None

The RRT for these compounds in the dilutions of the above samples were within  $\pm$  0.06 and, therefore, based on professional judgement, the results for 1,1,1-trichloroethane and carbon tetrachloride were not qualified.

# XI. COMPOUND QUANTITATION AND REPORTED CONTRACT-REQUIRED QUANTITATION LIMITS

ISs were not analyzed and, therefore, calculations could not be verified. Non-detect results were not reported for the diluted samples and, therefore, contract-required quantitation limit (CRQL) adjustment for dilution could not be verified.

### XII. TENTATIVELY IDENTIFIED COMPOUNDS

Not applicable.

# XIII. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The system performance was acceptable. A summary of the overall assessment of the data is provided on the following page.

# ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE <u>Baldwin Park OU</u>	LABORATORY_	Thermo Ana	lytical	
SDG NO. <u>L3551</u>	DATA USER _	CDM		
REVIEW COMPLETION DATE 10	/08/96			
NO. OF SAMPLES 3 WATE	R SOII	ro t	HER N/A	
REVIEWER [ ] ESD [ ] ESAT	[] OTHER,	CONTRACT/C	ONTRACTOR	
	VOA	BNA	PEST	OTHER
1. HOLDING TIMES 2. GC/MS INSTRUMENT PERF. 3A. INITIAL CALIBRATIONS 3B. CONTINUING CALIBRATION 4. BLANKS 5. SURROGATES 6. MS/MSD 7. LCS/LCSD 8. REGIONAL QC 9. INTERNAL STANDARDS 10. COMPOUND IDENTIFICATION 12. COMPOUND QUANTITATION 13. SYSTEM PERFORMANCE 14. OVERALL ASSESSMENT	X X X O O O O O ND			

O = No problems or minor problems that do not affect data usability.

X = No more than about 5% of the data points are qualified as either estimated or unusable.

NA = Not applicable.

ND = No data available.

DATA VALIDATION FOR: Metals using SW-846 Methods 6010/7000

Series

PROJECT CONTACT: Suzanne Rowe

SITE: Baldwin Park Operable Unit Pre-Remedial

Design Groundwater Monitoring Program

SDG NO: L3551

CONTRACT LAB: Thermo Analytical, Santa Ana, California

REVIEWER: Krista Lippoldt, CDM Federal

DATE REVIEW COMPLETED: October 9, 1996

MATRIX: Water

Data validation was performed following the guidelines in Test Methods for Evaluating Solid Waste Physical/Chemical Methods, SW-846, 3rd Edition (SW-846) dated January 1990 with current revisions and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, November 1988 with current revisions. All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detect), "UJ" (non-detect with an estimated detection limit), or "R" (unusable). The data assessment is discussed in detail on the attached sheets.

Two water samples (listed below) were collected at Paddy Lane Well on July 12, 1996 and shipped to Thermo Analytical. These samples were analyzed for metals using SW-846 Methods 6010/7000 Series. The metals and associated methods are aluminum, barium, cadmium, chromium, copper, iron, manganese, nickel, zinc, calcium, magnesium, potassium, and sodium by SW-846 Method 6010; arsenic by SW-846 Method 7060; lead by SW-846 Method 7421; and mercury by SW-846 Method 7470.

BP-GW-01900031-070996 BP-GW-01900031K-070996 (DUPLICATE SAMPLE)

# DATA ASSESSMENT

### I. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may be biased low, therefore, the positive results of a sample whose holding time has been exceeded may be qualified as estimated, "J". The results of the analytes not detected in the sample may be qualified as estimated, "J", or unusable, "R" (if the holding times are grossly exceeded).

The samples were analyzed within prescribed holding times.

### II. CALIBRATION

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

An initial calibration verification (ICV) is required once per 24 hours and a continuing calibration verification (CCV) is required at a frequency of 10 percent (%) or every two hours during an analytical run, whichever is more frequent. The % recovery (R) of all analytes except mercury and cyanide must be between 90-110%. The %R of mercury must be between 80-120% and cyanide between 85-115%. If the %R is outside of the acceptable range, the result of that analyte in the associated sample(s) may be qualified as estimated, ""J", non-detect with an estimated detection limit, "UJ", or unusable, "R".

## IIA. INITIAL CALIBRATION

An ICV was analyzed once per 24 hours. All %Rs were within the acceptable limits.

# IIB. CONTINUING CALIBRATION

A CCV was analyzed per the appropriate frequency. All %Rs were within the acceptable range.

#### III. BLANK CONTAMINATION

Quality assurance (QA)/QC blank samples, i.e., preparation, initial calibration, continuing calibration, field, or equipment rinsate blanks, are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Preparation blanks (PBs), initial calibration blanks (ICBs), and continuing calibration blanks (CCBs) measure laboratory contamination. Field and equipment rinsate blanks measure cross-contamination of samples during field operations. If the concentration of an analyte detected in a sample is less than 5 times the concentration detected in a blank sample, the sample result may be qualified as non-detect, "U".

### IIIA. PREPARATION, INITIAL CALIBRATION, AND CONTINUING CALIBRATION BLANKS

The following analytes were detected in either a PB, ICB, or CCB:

TYPE OF BLANK	COMPOUND	MAX CONC (mg/L)	ACTION LEVEL (mg/L)	SAMPLE (S) AFFECTED
ICB	Barium	0.0014	0.007	None
CCB	Iron	0.0549	0.2745	BP-GW-01900031-071296, BP-GW-01900031K-071296
PB	Lead	0.00078	0.0039	Same as above
PB	Zinc	0.0187	0.0935	Same as above
PB	Calcium	0.302	1.51	None
Pb	Magnesium	0.219	1.095	None
PB	Sodium	0.21	1.05	None

Due to blank contamination, the iron, lead, and zinc results for samples BP-GW-01900031-071296 and BP-GW-01900031K-071296 were qualified as non-detects, "U".

#### IIIB. FIELD BLANKS

A field blank was not analyzed for metals.

### IIIC. EQUIPMENT RINSATE BLANKS

An equipment rinsate blank was not analyzed for metals.

## IV. INTERFERENCE CHECK SAMPLE

The interference check sample (ICS) verifies the laboratory's interelement and background correction factors. The %Rs for the inductively coupled plasma (ICP) analysis of the ICS AB solution must lie between 80-120%. If the %Rs are not within acceptable limits and the concentration of either aluminum, calcium, iron, or magnesium in a sample are comparable to or greater than (>) their respective levels in the ICS, the associated results may be qualified.

All %Rs were within 80-120%.

# V. LABORATORY CONTOL SAMPLES

The laboratory control sample (LCS) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. All aqueous LCS %Rs must be within 80-120%, except for antimony and silver which have no fixed control limits. If the %Rs do not fall within the acceptable limits, sample results may be qualified.

All %Rs were within the acceptable ranges.

# VI. DUPLICATE SAMPLE ANALYSIS

Laboratory duplicate sample determinations are used to demonstrate acceptable method precision by the laboratory at the time of analysis. Laboratory duplicate

analyses are also performed to generate data in order to determine the long-term precision of the analytical method on various matrices. If the RPDs of the laboratory duplicate analyses are not within  $\pm$  20% (35% for soils) for results  $\geq$  5 times the contract-required detection limit (5xCRDL) or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

The laboratory duplicate aliquot was collected from sample BP-GW-01900031K-071296. The laboratory duplicate was only analyzed for barium, calcium, magnesium, potassium, and sodium. The following analytes were detected in at least one of the laboratory duplicate pair analyses:

COMPOUND	CRDL (mg/L)	5xCRDL (mg/L)	SAMPLE CONC (mg/L)	DUP CONC (mg/L)	QC CONTROL LIMITS	Sample (S) Affected
Barium	0.2	1.0	0.131	0.136	±CRDL	None
Calcium	5.0	25	70.5	71.5	RPD=1	None
Magnesium	5.0	25	13.1	13.4	±CRDL	None
Potassium	5.0	25	3.96	4.2	±CRDL	None
Sodium	5.0	25	12.7	13.3	±CRDL	None

All laboratory duplicate results met criteria.

#### VII. SPIKE SAMPLE ANALYSIS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. If the %Rs of the pre-digestion spiked sample (matrix spike [MS]) do not fall between 75-125%, the associated sample results may be qualified and a post-digestion spiked sample (PDS) is required for all analytes. The acceptable control limits for the PDS %Rs are also 75-125%, but the data from the PDS is not used to qualify data.

All %Rs of the MS and PDS met the criteria except the following:

QC TYPE	СОМБОДИД	4xSPIKE CONC (mg/L)	SAMPLE CONC (mg/L)	%R	SAMPLE (S) Affected
MS	Calcium	2.0	70.5	40%	None
PDS	Calcium Magnesium	5.0 5.0	70.5 13.1	284% 132%	None

Although the calcium %R for the MS was outside of the acceptable control limits, the calcium result for the sample was > 4x the spike concentration and, therefore, no action was taken. A post-digestion spiked sample was analyzed. The calcium and magnesium %Rs were outside of the acceptable limits. No action was taken due to PDS results.

# VIII. GRAPHITE FURNACE ATOMIC ABSORPTIION QUALITY CONTROL

The raw data were not provided and, therefore, this was not assessed.

#### IX. ICP SERIAL DILUTION

The serial dilution of samples quantitated by ICP determines whether or not significant physical or chemical interferences exist due to sample matrix. If the analyte concentration is > 50x the instrument detection limit (IDL), then the 5-fold dilution result must agree within a 10% difference (D). If this control limit is exceeded, the associated results may be qualified.

The ICP serial dilution was only analyzed for barium, calcium, magnesium, potassium, and sodium. The results for these analytes met the acceptable criteria except the following:

RLEMENT	IDL (mg/L)	50xIDL (mg/L)	SAMP CONC (mg/L)	DIL CONC (mg/L)	%D	Sample (S) Affected
Calcium	0.102	5.1	70.5	78.7	12	BP-GW-01900031-071296 BP-GW-01900031K-071296
Magnesium	0.0379	1.895	13.1	14.4	14	Same as above
Sodium	0.108	5.4	12.7	14.1	11	Same as above

Due to discrepancies in the ICP serial dilution results, the calcium, magnesium, and sodium results for samples BP-GW-01900031-071296 and BP-GW-01900031K-071296 were qualified as estimated, "J".

### X. FIELD DUPLICATES

Field duplicate samples may be collected and analyzed as an indication of overall precision. These analyses measure both field and laboratory precision; therefore, the results may have more variability than laboratory duplicates which measure only laboratory performance. If the RPDs of the field duplicate analyses are not within  $\pm$  30% (50% for soils) for results  $\geq$  5xCRDL or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

Sample BP-GW-01900031K-071296 was the duplicate of sample BP-GW-01900031-071296. The following analytes were detected in at least one of the samples:

COMPOUND	CRDL (mg/L)	5xCRDL (mg/L)	SAMPLE CONC (mg/L)	DUP CONC (mg/L)	QC CONTROL LIMITS	Sample (S) Affected
Aluminum	0.2	1.0	0.0437U	0.0963	±2xCRDL	None
Barium	0.2	1.0	0.13	0.131	±2xCRDL	None
Cadmium	0.005	0.025	0.00276	0.0017	±2xCRDL	None
Calcium	5.0	25	70.8	70.5	RPD=1	None
Chromium	0.01	0.05	0.00194	0.00442	±2xCRDL	None
Copper	0.025	0.125	0.0129	0.0139	±2xCRDL	None
Iron ·	0.1	0.5	0.0552	0.195	±2xCRDL	None
Lead	0.005	0.025	0.00279	0.00251	±2xCRDL	None
Magnesium	5.0	25	13.1	13.1	±2xCRDL	None
Manganese	0.015	0.075	0.00631	0.0045	±2xCRDL	None
Nickel	0.04	0.2	0.00501	0.00631	±2xCRDL	None
Potassium	5.0	25	4.02	3.96	±2xCRDL	None
Sodium	5.0	25	12.8	12.7	±2xCRDL	None
Zinc	0.02	0.1	0.091	0.069	±2xCRDL	None

All field duplicate results met criteria.

# XI. OVERALL ASSESSMENT

A summary of the overall assessment of the data is provided on the next page.

# INORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE <u>Baldwin Park OU</u>	LABORATORY Thermo Analytical
SDG NO. <u>L3551</u>	DATA USER <u>CDM</u>
REVIEW COMPLETION DATE _10/09	2/96
NO. OF SAMPLES 2 WATER	SOIL OTHER N/A
REVIEWER [ ] ESD [ ] ESAT [ ]	OTHER, CONTRACT/CONTRACTOR
	METALS WET CHEMISTRY
1. HOLDING TIMES 2A. INITIAL CALIBRATIONS 2B. CONTINUING CALIBRATIONS 3A. LAB BLANKS 3B. FIELD BLANKS 3C. RINSATE BLANKS 4. INTERFERENCE CHECK SAMPLE 5. LCS 6. LAB DUPLICATE 7. SPIKE SAMPLES 8. GFAA QC 9. ICP SERIAL DILUITION 10. FIELD DUPLICATES	O O O O O O O O O O O O O O O O O O O
10. FIELD DUPLICATES 11. OVERALL ASSESSMENT	0

O = No problems or minor problems that do not affect data usability.

X = No more than about 5% of the data points are qualified as either estimated or unusable.

ND = No data available.

DATA VALIDATION FOR: Wet Chemistry using EPA Methods 100/300

Series

PROJECT CONTACT: Suzanne Rowe

SITE: Baldwin Park Operable Unit Pre-Remedial

Design Groundwater Monitoring Program

SDG NO: L3551

CONTRACT LAB: Thermo Analytical, Santa Ana, California

REVIEWER: Krista Lippoldt, CDM Federal

DATE REVIEW COMPLETED: October 10, 1996

MATRIX: Water

Data validation was performed following the guidelines in Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983 with current revisions and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, November 1988 with current revisions. All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detect), "UJ" (non-detect with an estimated detection limit), or "R" (unusable). The data assessment is discussed in detail on the attached sheets.

Two water samples (listed below) were collected at Paddy Lane Well on July 12, 1996 and shipped to Thermo Analytical. These samples were analyzed for wet chemistry parameters using EPA Methods 100/300 Series. The wet chemistry parameters and methods include alkalinity by EPA Method 310.1; total dissolved solids (TDS) by EPA Method 160.1; total suspended solids (TSS) by EPA Method 160.2; hardness by EPA Method 130.2; and chloride, sulfate, nitrate, and nitrite by Method 300.0.

BP-GW-01900031-071296
BP-GW-01900031K-071296 (DUPLICATE SAMPLE)

### I. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may be biased low, therefore, the positive results of a sample whose holding time has been exceeded may be qualified as estimated, "J". The results of the analytes not detected in the sample may be qualified as estimated, "J", or unusable, "R" (if the holding times are grossly exceeded).

The samples were analyzed within prescribed holding times.

#### II. CALIBRATION

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

For EPA Method 300.0, the instrument must be calibrated daily using a minimum of a blank and three standards. An initial calibration verification (ICV) is required immediately after daily calibration and a continuing calibration verification (CCV) is required at a frequency of 10 percent (%) and at the end of the an analytical run, whichever is more frequent. The ICV response or retention time of each analyte must agree with the expected value by ± 10 percent. The % R of the CCV must be within 90 to 100 percent. If the response is outside of the acceptable range, the result of that analyte in the associated sample(s) may be qualified as estimated, ""J", non-detect with an estimated detection limit, "UJ", or unusable, "R".

## IIA. INITIAL CALIBRATION

An initial calibration was performed with a blank and three standards. With the exception of nitrite and sulfate, ICV responses for nitrate and chloride were within 10 percent of the true value. The ICV responses for nitrite and sulfate were 89 and 82 percent, respectively, which are lower than the method specified limit of 90-110 percent; however, both the sulfate and nitrite recoveries were within the acceptance limits provided by an independent source of the ICV. Because the CCVs were within acceptable limits, and the ICVs were within a range considered acceptable by the ICV source, it is the reviewer's professional judgement that the nitrite and sulfate data should not be qualified.

# IIB. CONTINUING CALIBRATION

CCVs were analyzed at the appropriate frequency and in the correct analytical sequence. Percent recovery for nitrate, nitrite, sulfate and chloride were between acceptable limits of 90 to 110 percent.

## III. BLANK CONTAMINATION

Quality assurance (QA)/QC blank samples, i.e., method, field, or equipment rinsate blanks, are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method

Wet Chemistry Data Review L3551

blanks measure laboratory contamination. Field and equipment rinsate blanks measure cross-contamination of samples during field procedures. If the concentration of an analyte detected in a sample is less than 5 times the concentration detected in a blank sample, the sample result may be qualified as non-detect, "U".

### IIIA. METHOD BLANKS

A method blank was analyzed for all parameters. There were no analytes detected in any of the method blanks.

### IIIB. FIELD BLANKS

A field blank was not analyzed for wet chemistry parameters.

## IIIC. EQUIPMENT RINSATE BLANKS

An equipment rinsate blank was not analyzed for wet chemistry parameters.

# IV. LABORATORY CONTOL SAMPLES

The laboratory control sample (LCS) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. For EPA Method 300, all aqueous LCS %Rs must be within 90-110% and all RPDs must be less than 20%. For all other wet chemistry methods, the %Rs must be within 80-120% and all RPDs must be less than 20%. If the %Rs or RPDs do not fall within the acceptable limits, sample results may be qualified.

An LCS and LCSD were analyzed for chloride, sulfate, nitrate, and nitrite and an LCS was analyzed for alkalinity. All %Rs and RPDs were within the acceptable limits.

## V. DUPLICATE SAMPLE ANALYSIS

Laboratory duplicate sample determinations are used to demonstrate acceptable method precision by the laboratory at the time of analysis. Laboratory duplicate analyses are also performed to gernerate data in order to determine the long-term precision of the analytical method on various matrices. If the RPDs of the laboratory duplicate analyses are not within  $\pm$  20% (35% for soils) for results  $\geq$  5 times the contract-required detection limit (5xCRDL) or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

No data were provided for laboratory duplicate analysis for any of the parameters.

# VI. SPIKE SAMPLE ANALYSIS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. If the %Rs of the spiked sample (matrix spike [MS]) do not fall between 80-120% or the RPDs of the duplicate results do not fall between ± 20%, the associated sample results may be qualified.

An MS and MSD were analyzed for chloride, sulfate, nitrate, and nitrite and an MS was analyzed for alkalinity. All %Rs and RPDS were within the acceptable control limits except the following:

Wet Chemistry Data Review L3551

QC TYPE	COMPOUND	%R	SAMPLE(S) AFFECTED
MS	Chloride	145%	BP-GW-01900031-071296 BP-GW-01900031K-071296
MSD	Chloride	148%	BP-GW-01900031-071296 BP-GW-01900031K-071296

Due to the MS/MSD discrepancies, the chloride results for samples BP-GW-01900031-071296 and BP-GW-01900031K-071296 were qualified as estimated, "J".

#### VII. FIELD DUPLICATES

Field duplicate samples may be collected and analyzed as an indication of overal precision. These analyses measure both field and laboratory precision; therefore, the results may have more variability than laboratory duplicates which measure only laboratory performance. If the RPDs of the field duplicate analyses are not within  $\pm$  30% (50% for soils) for results  $\geq$  5xCRDL or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

Sample BP-GW-01900031K-071296 was collected as the duplicate of sample BP-GW-01900031-071296. The following analytes were detected in at least one of the samples:

COMPOUND	CRDL: (mg/L)	5xCRDL (mg/L)	SAMPLE CONC (mg/L)	DUP CONC (mg/L)	QC CONTROL LIMITS	Sample (S) Affected
Alkalinity as: HCO3-	1.0	5.0	210	200	RPD=5	None
TDS	12	60	340	360	RPD=6	None
TSS	10	50	17	100	±2xCRDL	None
Hardness	1.0	5.0	250	280	RPD=11	None
Chloride	1.3	6.5	21	21.	RPD=0	None
Sulfate	1.0	5.0	37	37	RPD=0	None
Nitrate .	0.25	1.25	6.7	6.7	RPD=0	None

All field duplicate results met criteria.

## VIII. OVERALL ASSESSMENT

A summary of the overall assessment of the data is provided at the end on the next page.

# INORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE Baldwin Park OU	LABORATORY Thermo	<u>Analytical</u>
SDG NO. <u>L3551</u>	DATA USER <u>CDM</u>	
REVIEW COMPLETION DATE 10/10	/96	
NO. OF SAMPLES 2 WATER	SOIL O'	THER N/A
REVIEWER [ ] ESD [ ] ESAT [ ]	OTHER, CONTRACT/C	CONTRACTOR
	METALS WET	CHEMISTRY
1. HOLDING TIMES  2A. INITIAL CALIBRATIONS  2B. CONTINUING CALIBRATIONS  3A. LAB BLANKS  3B. FIELD BLANKS  3C. RINSATE BLANKS  4. INTERFERENCE CHECK SAMPLE  5. LCS  6. LAB DUPLICATE  7. SPIKE SAMPLES  8. GFAA QC  9. ICP SERIAL DILUITION  10. FIELD DUPLICATES  11. OVERALL ASSESSMENT		O O O O ND ND NA O ND X NA NA NA O O O
O = No problems or minor problems usability.	lems that do not a	affect data

X = No more than about 5% of the data points are qualified as either estimated or unusable.

NA = Not applicable.

ND = No data available.

DATA VALIDATION FOR: Volatile Organic Compounds using SW-846

Method 8260

PROJECT CONTACT: Suzanne Rowe

SITE: Baldwin Park Operable Unit Pre-Remedial

Design Groundwater Monitoring Program

**SDG NO:** 121536

CONTRACT LAB: Quanterra Environmental Services, Santa

Anna, California

REVIEWER: Krista Lippoldt, CDM Federal

DATE REVIEW COMPLETED: November 18, 1996

MATRIX: Water

Data validation was performed following the guidelines in the Test Methods for Evaluating Solid Waste Physical/Chemical Methods, SW-846, 3rd Edition (SW-846) dated January 1990 with current revisions, and the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, November 1988 with current revisions. All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "UJ" (non-detect with an estimated detection limit), or "R" (unusable). The data assessment is discussed in detail on the attached sheets.

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. Results qualified with an "R" should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Eight water samples (listed below) were collected at the Baldwin Park site on September 24, 1996 and shipped to Quanterra Environmental Services. These samples were analyzed for volatile organic compounds using SW-846 Method 8260.

BP-GW-01900029-092496

BP-GW-01900035-092496

BP-GW-MW50801-092496

BP-GW-MW50802-092496

BP-GW-MW50803-092496

BP-GW-MW50803N-092496 (FIELD BLANK)

BP-GW-MW50804-092496

BP-GW-019000831-092496

#### DATA ASSESSMENT

### I. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may be biased low, therefore, the positive results of a sample whose holding time has been exceeded may be qualified as estimated, "J". The results of the analytes not detected in the sample may be qualified as estimated, "J", or unusable, "R" (if the holding time is grossly exceeded).

The samples were analyzed within prescribed holding times.

#### II. GC/MS INSTRUMENT PERFORMANCE CHECK

The BFB performance results were reviewed and found to be within the specified criteria.

#### III. CALIBRATION

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

The response factor measures the instrument's response to specific chemical compounds. The response factor must be  $\geq 0.05$  in both the initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). If the mean response factor (RRF) of the initial calibration or the continuing calibration is < 0.05 for any analyte, those analytes detected in the associated samples may be qualified as estimated, "J". The results for all analytes that were not detected may be rejected, "R".

Percent relative standard deviation (RSD) is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent difference (%D) compares the response factor of the continuing calibration check to the RRF from the initial calibration. %D is a measure of the instrument's daily performance. %RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results for samples associated with an %RSD or %D that were above the acceptable limits may be qualified as estimated, "J" and the results for the analytes not detected may be qualified as non-detects with estimated detection limits, "UJ". Non-detects may be used without any qualification if the %RSD is >30 based on professional judgement. If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified as unusable, "R".

# IIIA. INITIAL CALIBRATION

All RFs were ≥0.05 and all %RSDs were <30% except the following:

DATE	CRITERIA OUTSIDE OF LIMITS	COMPOUND	VALUE OF CRITERIA	Sample (S) Affected
9/17/96	RF RFave	Acetone	0.04710 0.04856 0.04505 0.04102 0.04636	All Samples
9/17/96	RF RFave	2-Butanone	0.03069 0.03883 0.02638 0.02432 0.02722	All Samples
9/17/96	RF RFave	4-Methyl-2-pentanone	0.03847 0.02883 0.02422 0.0383 0.037	All Samples
9/17/96	*RSD	1,2-Dibromo-3- chloropropane	58.573	All Samples

Due to the initial calibration verification, the positive results for acetone, 2-butanone, and 4-methyl-2-pentanone were qualified as estimated (J), the non-detect results for acetone, 2-butanone, and 4-methyl-2-pentanone were qualified as unusable (R), the positive results for 1,2-dibromo-3-chloropropane were qualified as estimated (J), and the nondetect results for 1,2-dibromo-3-propane were qualified as non-detect with estimated detection limits (UJ) for all samples.

## IIIB. CONTINUING CALIBRATION

All listed RFs were ≥0.05 and all %Ds were <25% except the following:

DATE	CRITERIA OUTSIDE OF LIMITS	COMPOUND	VALUE OF CRITERIA	SAMPLE (S) APPECTED
10/4/96	%RSD	Acetone	71.73	All Samples
10/4/96	%RSD	Chloromethane	31.15	All Samples

Due to the continuing calibration on 10/4/96, the positive results for acetone and chloromethane were qualified as estimated (J) and the non-detect results for acetone were qualified as non-detect with estimated detection limits (UJ).

# IV. BLANK CONTAMINATION

Quality assurance (QA)/QC blank samples, i.e., method, trip, field, or equipment rinsate blanks, are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and equipment rinsate blanks measure cross-contamination of samples during field procedures. If the concentration of an analyte detected in a sample is less than 5 times the concentration detected in a

blank sample (10 times for the common contaminants), the sample result may be qualified as non-detect, "U".

### IVA. METHOD BLANKS

No analytes were detected in any of the method blanks.

#### IVB. TRIP BLANKS

A trip blank was not analyzed with this sample group.

### IVC. FIELD BLANKS

A field blank was not analyzed with this sample group.

## IVD. EQUIPMENT RINSATE BLANKS

The following analytes were detected in the equipment rinsate blank, BP-GW-MW50803N-092496:

MATRIX	COMPOUND	CONCENTRATION (µg/L)	ACTION LEVEL (µg/L)	Sample (5) Affected
Water	Methylene Chloride	1.8	18	All non-blank samples
Water	Trichloroethene	0.61	3.05	All non-blank samples except BP-GW-MW50804- 092496
Water	Methyl-t-butyl ether	1.0	5.0	BP-GW-MW50801-092496

Due to the equipment rinsate blank contamination, the methylene chloride, trichloroethene, and/or methyl-t-butyl ether results for the samples listed in the right column were qualified as non-detects, "U".

# V. SURROGATES/SYSTEM MONITORING COMPOUNDS

All samples are spiked with surrogate/system monitoring compounds (SMC) compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured percent recovery (%R) of a surrogate/SMC is outside criteria, the results of that sample may be qualified as estimated, "J" or non-detects with estimated detection limits, "UJ".

All %Rs were within the acceptable control limits.

## VI. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/matrix spike duplicate (MSD) data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD results may be used in conjunction with other QC criteria for some additional qualification of data.

All %Rs and RPDs were within the acceptable ranges.

#### VII. LABORATORY CONTOL SAMPLES

Laboratory control sample (LCS) data are generated to determine the long-term precision and accuracy of the analytical method. The LCS results may be used for some qualification of data.

All %Rs and RPDs were within the acceptable ranges.

VIII. REGIONAL QUALITY ASSURANCE AND QUALITY CONTROL

Duplicate samples were not collected for this data package.

#### IX. INTERNAL STANDARDS

Internal standard (IS) performance criteria ensure that the GC sensitivity and response are stable during every experimental run. The IS area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the IS must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to -100%) range of the associated standard, all of the positive results for compounds quantitated using that IS may be qualified as estimated, "J", and all non-detects may be qualified as non-detects with estimated detection limits, "UJ". Non-detects may be qualified as unusable, "R", if there is a severe loss of sensitivity (< 25% of associated IS area counts).

All IS data met acceptable criteria.

### X. COMPOUND IDENTIFICATION

Target compound list (TCL) compounds are identified on the GC by using the analyte's relative retention time (RRT). For the results to be a positively identified, the sample peak must be within  $\pm$  0.06 RRT units of the standard compound. If the RRT value is not within the acceptable range, the associated results may be qualified as non-detects, "U".

All compounds were identified correctly.

XI. COMPOUND QUANTITATION AND REPORTED CONTRACT-REQUIRED QUANTITATION LIMITS

All criteria were met.

XII. TENTATIVELY IDENTIFIED COMPOUNDS

Not applicable.

XIII. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The system performance was acceptable. A summary of the overall assessment of the data is provided on the following page.

# ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE Baldwin Park OU LA SDG NO. 121536 DA		Ouanterra E CDM		ervices			
REVIEW COMPLETION DATE <u>11/18/96</u>							
NO. OF SAMPLES 8 WATER	SOII	OTI	HER N/A				
REVIEWER [ ] ESD [ ] ESAT [	] OTHER,	CONTRACT/CO	ONTRACTOR				
	VOA	BNA	PEST	OTHER			
1. HOLDING TIMES 2. GC/MS INSTRUMENT PERF. 3A. INITIAL CALIBRATIONS 3B. CONTINUING CALIBRATIONS 4. BLANKS 5. SURROGATES 6. MS/MSD 7. LCS/LCSD 8. REGIONAL QC 9. INTERNAL STANDARDS 10. COMPOUND IDENTIFICATION 12. COMPOUND QUANTITATION 13. SYSTEM PERFORMANCE 14. OVERALL ASSESSMENT	O						
	,	_					

O = No problems or minor problems that do not affect data usability.

X = No more than about 5% of the data points are qualified as either estimated or unusable.

NA = Not applicable.

ND = No data available.

DATA VALIDATION FOR: Metals using SW-846 Methods 6010/7000

Series

PROJECT CONTACT: Suzanne Rowe

SITE: Baldwin Park Operable Unit Pre-Remedial

Design Groundwater Monitoring Program

**SDG NO:** 121536

CONTRACT LAB: Quanterra Environmental Services, Santa

Anna, California

REVIEWER: Krista Lippoldt, CDM Federal

DATE REVIEW COMPLETED: November 18, 1996

MATRIX: Water

Data validation was performed following the guidelines in Test Methods for Evaluating Solid Waste Physical/Chemical Methods, SW-846, 3rd Edition (SW-846) dated January 1990 with current revisions and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, November 1988 with current revisions. All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detect), "UJ" (non-detect with an estimated detection limit), or "R" (unusable). The data assessment is discussed in detail on the attached sheets.

Five water samples (listed below) were collected at the Baldwin Park site on September 24, 1996 and shipped to Quanterra Environmental Services. These samples were analyzed for metals using SW-846 Methods 6010/7000 Series. The metals and associated methods are aluminum, barium, cadmium, chromium, copper, iron, manganese, nickel, zinc, calcium, magnesium, potassium, and sodium by SW-846 Method 6010; arsenic by SW-846 Method 7060; lead by SW-846 Method 7421; and mercury by SW-846 Method 7470.

BP-GW-MW50801-092496

BP-GW-MW50802-092496

BP-GW-MW50803-092496

BP-GW-MW50803N-092496 (FIELD BLANK)

BP-GW-MW50804-092496

#### DATA ASSESSMENT

## I. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may be biased low, therefore, the positive results of a sample whose holding time has been exceeded may be qualified as estimated, "J". The results of the analytes not detected in the sample may be qualified as estimated, "J", or unusable, "R" (if the holding times are grossly exceeded).

The samples were analyzed within prescribed holding times.

### II. CALIBRATION

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

An initial calibration verification (ICV) is required once per 24 hours and a continuing calibration verification (CCV) is required at a frequency of 10 percent (%) or every two hours during an analytical run, whichever is more frequent. The % recovery (R) of all analytes except mercury and cyanide must be between 90-110%. The %R of mercury must be between 80-120% and cyanide between 85-115%. If the %R is outside of the acceptable range, the result of that analyte in the associated sample(s) may be qualified as estimated, ""J", non-detect with an estimated detection limit, "UJ", or unusable, "R".

## IIA. INITIAL CALIBRATION

An ICV was analyzed once per 24 hours. All %Rs were within the acceptable limits.

## IIB. CONTINUING CALIBRATION

A CCV was analyzed per the appropriate frequency. All %Rs were within the acceptable range.

## III. BLANK CONTAMINATION

Quality assurance (QA)/QC blank samples, i.e., preparation, initial calibration, continuing calibration, field, or equipment rinsate blanks, are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Preparation blanks (PBs), initial calibration blanks (ICBs), and continuing calibration blanks (CCBs) measure laboratory contamination. Field and equipment rinsate blanks measure cross-contamination of samples during field operations. If the concentration of an analyte detected in a sample is less than 5 times the concentration detected in a blank sample, the sample result may be qualified as non-detect, "U".

## IIIA. PREPARATION, INITIAL CALIBRATION, AND CONTINUING CALIBRATION BLANKS

The results for the calibration blanks were reported to the reportable detection limit and not the instrument detection limit. No analytes were detected in the PB, ICB, or CCB.

#### IIIB. FIELD BLANKS

A field blank was not analyzed for metals.

# IIIC. EQUIPMENT RINSATE BLANKS

No analytes were detected in the equipment rinsate blank.

#### IV. INTERFERENCE CHECK SAMPLE

The interference check sample (ICS) verifies the laboratory's interelement and background correction factors. The %Rs for the inductively coupled plasma (ICP) analysis of the ICS AB solution must lie between 80-120%. If the %Rs are not within acceptable limits and the concentration of either aluminum, calcium, iron, or magnesium in a sample are comparable to or greater than (>) their respective levels in the ICS, the associated results may be qualified.

All %Rs were within 80-120%.

### V. LABORATORY CONTOL SAMPLES

The laboratory control sample (LCS) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. All aqueous LCS %Rs must be within 80-120%, except for antimony and silver which have no fixed control limits. If the %Rs do not fall within the acceptable limits, sample results may be qualified.

All %Rs were within the acceptable ranges.

#### VI. DUPLICATE SAMPLE ANALYSIS

Laboratory duplicate sample determinations are used to demonstrate acceptable method precision by the laboratory at the time of analysis. Laboratory duplicate analyses are also performed to generate data in order to determine the long-term precision of the analytical method on various matrices. If the RPDs of the laboratory duplicate analyses are not within  $\pm$  20% (35% for soils) for results  $\geq$  5 times the contract-required detection limit (5xCRDL) or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

A laboratory duplicate was not analyzed.

# VII. SPIKE SAMPLE ANALYSIS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. If the %Rs of the pre-digestion spiked sample (matrix spike [MS]) do not fall between 75-125%, the associated sample results may be qualified and a post-digestion spiked sample (PDS) is required for all analytes. The acceptable

control limits for the PDS %Rs are also 75-125%, but the data from the PDS is not used to qualify data.

All %Rs of the MS and MSDs met the criteria.

VIII. GRAPHITE FURNACE ATOMIC ABSORPTIION QUALITY CONTROL

The raw data were not provided and, therefore, was not assessed.

#### IX. ICP SERIAL DILUTION

The serial dilution of samples quantitated by ICP determines whether or not significant physical or chemical interferences exist due to sample matrix. If the analyte concentration is > 50x the instrument detection limit (IDL), then the 5-fold dilution result must agree within a 10% difference (D). If this control limit is exceeded, the associated results may be qualified.

All %Ds were within the acceptable control limits.

#### X. FIELD DUPLICATES

Field duplicate samples may be collected and analyzed as an indication of overall precision. These analyses measure both field and laboratory precision; therefore, the results may have more variability than laboratory duplicates which measure only laboratory performance. If the RPDs of the field duplicate analyses are not within  $\pm$  30% (50% for soils) for results  $\geq$  5xCRDL or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

A field duplicate was not collected with this sample group.

# XI. OVERALL ASSESSMENT

A summary of the overall assessment of the data is provided on the next page.

# INORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE Baldwin Park OU	LABORATORY <u>Ouanterra Env. Services</u>
SDG NO. <u>121536</u>	DATA USER <u>CDM</u>
REVIEW COMPLETION DATE <u>11/18</u>	/96
NO. OF SAMPLES 5 WATER	SOIL OTHER N/A
REVIEWER [ ] ESD [ ] ESAT [ ]	OTHER, CONTRACT/CONTRACTOR
	METALS WET CHEMISTRY
1. HOLDING TIMES 2A. INITIAL CALIBRATIONS 2B. CONTINUING CALIBRATIONS 3A. LAB BLANKS 3B. FIELD BLANKS 3C. RINSATE BLANKS 4. INTERFERENCE CHECK SAMPLE 5. LCS 6. LAB DUPLICATE 7. SPIKE SAMPLES 8. GFAA QC 9. ICP SERIAL DILUITION 10. FIELD DUPLICATES	O O O O O O O O O O O O O O O O O O O
11. OVERALL ASSESSMENT	<u> </u>

O = No problems or minor problems that do not affect data usability.

X = No more than about 5% of the data points are qualified as either estimated or unusable.

ND = No data available.

DATA VALIDATION FOR: Wet Chemistry using EPA Methods 100/300

Series

PROJECT CONTACT: Suzanne Rowe

SITE: Baldwin Park Operable Unit Pre-Remedial

Design Groundwater Monitoring Program

**SDG NO:** 121536

CONTRACT LAB: Quanterra Environmental Services, Santa

Ana, California

REVIEWER: Krista Lippoldt, CDM Federal

DATE REVIEW COMPLETED: November 18, 1996

MATRIX: Water

Data validation was performed following the guidelines in Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983 with current revisions and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, November 1988 with current revisions. All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detect), "UJ" (non-detect with an estimated detection limit), or "R" (unusable). The data assessment is discussed in detail on the attached sheets.

Five water samples (listed below) were collected at the Baldwin Park site on September 24, 1996 and shipped to Quanterra Environmental Services. These samples were analyzed for wet chemistry parameters using EPA Methods 100/300 Series. The wet chemistry parameters and methods include alkalinity by EPA Method 310.1; total dissolved solids (TDS) by EPA Method 160.1; total suspended solids (TSS) by EPA Method 160.2; hardness by EPA Method 130.2; and chloride, sulfate, nitrate, and nitrite by Method 300.0.

BP-GW-MW50801-092496 BP-GW-MW50802-092496

BP-GW-MW50803-092496

BP-GW-MW50803N-092496 (FIELD BLANK)

BP-GW-MW50804-092496

#### I. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may be biased low, therefore, the positive results of a sample whose holding time has been exceeded may be qualified as estimated, "J". The results of the analytes not detected in the sample may be qualified as estimated, "J", or unusable, "R" (if the holding times are grossly exceeded).

The samples were analyzed within prescribed holding times.

### II. CALIBRATION

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

For EPA Method 300.0, the instrument must be calibrated daily using a minimum of a blank and three standards. An initial calibration verification (ICV) is required immediately after daily calibration and a continuing calibration verification (CCV) is required at a frequency of 10 percent (%) and at the end of the an analytical run, whichever is more frequent. The ICV response or retention time of each analyte must agree with the expected value by ± 10 percent. The % R of the CCV must be within 90 to 100 percent. If the response is outside of the acceptable range, the result of that analyte in the associated sample(s) may be qualified as estimated, ""J", non-detect with an estimated detection limit, "UJ", or unusable, "R".

#### IIA. INITIAL CALIBRATION

An initial calibration was performed with a blank and three standards. All ICV responses met the acceptable criteria for all analytes except chloride on 9/25/96 and 9/26/96. The final analysis of the samples were conducted on 9/27/96 and, therefore, no qualification is necessary.

### IIB. CONTINUING CALIBRATION

CCVs were analyzed at the appropriate frequency and in the correct analytical sequence. All CCV %Rs met the acceptable criteria for all analytes except chloride on 9/25/96 and 9/26/96. The final analysis of the samples were conducted on 9/27/96 and, therefore, no qualification is necessary.

## III. BLANK CONTAMINATION

Quality assurance (QA)/QC blank samples, i.e., method, field, or equipment rinsate blanks, are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field and equipment rinsate blanks measure cross-contamination of samples during field procedures. If the concentration of an analyte detected in a sample is less than 5 times the

concentration detected in a blank sample, the sample result may be qualified as non-detect, "U".

### IIIA. METHOD AND CALIBRATION BLANKS

A method blank was analyzed for all parameters. There were no analytes detected in any of the method blanks. Chloride and sulfate were detected in the CCB analyzed on 9/25/96 and chloride was detected in the CCB analyzed on 9/26/96. None of the samples were associated with these CCBs and, therefore, no qualifications were made.

### IIIB. FIELD BLANKS

A field blank was not analyzed for wet chemistry parameters.

# IIIC. EQUIPMENT RINSATE BLANKS

No analytes were detected in the equipment rinsate blank.

### IV. LABORATORY CONTOL SAMPLES

The laboratory control sample (LCS) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. For EPA Method 300, all aqueous LCS %Rs must be within 90-110% and all RPDs must be less than 20%. For all other wet chemistry methods, the %Rs must be within 80-120% and all RPDs must be less than 20%. If the %Rs or RPDs do not fall within the acceptable limits, sample results may be qualified.

An LCS and LCSD were analyzed for TDS, TSS, alkalinity, and hardness and an LCS was analyzed for nitrate, nitrite, chloride, and sulfate. All %Rs and RPDs were within the acceptable limits.

## V. DUPLICATE SAMPLE ANALYSIS

Laboratory duplicate sample determinations are used to demonstrate acceptable method precision by the laboratory at the time of analysis. Laboratory duplicate analyses are also performed to gernerate data in order to determine the long-term precision of the analytical method on various matrices. If the RPDs of the laboratory duplicate analyses are not within  $\pm$  20% (35% for soils) for results  $\geq$  5 times the contract-required detection limit (5xCRDL) or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

A laboratory duplicate was analyzed for TDS, TSS, alkalinity, and hardness. All RPDs met acceptable criteria.

# VI. SPIKE SAMPLE ANALYSIS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. If the %Rs of the spiked sample (matrix spike [MS]) do not fall between 80-120% or the RPDs of the duplicate results do not fall between ± 20%, the associated sample results may be qualified.

An MS and MSD were analyzed for chloride, sulfate, nitrate, and nitrite. All %Rs and RPDS were within the acceptable control limits.

### VII. FIELD DUPLICATES

Field duplicate samples may be collected and analyzed as an indication of overal precision. These analyses measure both field and laboratory precision; therefore, the results may have more variability than laboratory duplicates which measure only laboratory performance. If the RPDs of the field duplicate analyses are not within  $\pm$  30% (50% for soils) for results  $\geq$  5xCRDL or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

A field duplicate sample was not collected with this sample group

### VIII. OVERALL ASSESSMENT

A summary of the overall assessment of the data is provided at the end on the next page.

# INORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE Baldwin Park OU	LABORATORY <u>Ouanterra Env. Services</u>
SDG NO. <u>121536</u>	DATA USER <u>CDM</u>
REVIEW COMPLETION DATE 11/18	/96
NO. OF SAMPLES 5 WATER	SOIL OTHER N/A
REVIEWER [ ] ESD [ ] ESAT [ ]	OTHER, CONTRACT/CONTRACTOR
	METALS WET CHEMISTRY
1. HOLDING TIMES 2A. INITIAL CALIBRATIONS 2B. CONTINUING CALIBRATIONS 3A. LAB BLANKS 3B. FIELD BLANKS 3C. RINSATE BLANKS 4. INTERFERENCE CHECK SAMPLE 5. LCS 6. LAB DUPLICATE 7. SPIKE SAMPLES 8. GFAA QC 9. ICP SERIAL DILUITION 10. FIELD DUPLICATES 11. OVERALL ASSESSMENT	O O O O O O O O O O O O O O O O O O O
O = No problems or minor probusability.	lems that do not affect data
<pre>X = No more than about 5% of either estimated or unusable.</pre>	the data points are qualified as
NA = Not applicable.	

DATA VALIDATION FOR: Volatile Organic Compounds using SW-846

Method 8260

PROJECT CONTACT: Suzanne Rowe

SITE: Baldwin Park Operable Unit Pre-Remedial

Design Groundwater Monitoring Program

**SDG NO:** 121485

CONTRACT LAB: Quanterra Environmental Services, Santa

Anna, California

REVIEWER: Krista Lippoldt, CDM Federal

DATE REVIEW COMPLETED: November 20, 1996

MATRIX: Water

Data validation was performed following the guidelines in the Test Methods for Evaluating Solid Waste Physical/Chemical Methods, SW-846, 3rd Edition (SW-846) dated January 1990 with current revisions, and the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, November 1988 with current revisions. All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "UJ" (non-detect with an estimated detection limit), or "R" (unusable). The data assessment is discussed in detail on the attached sheets.

Two facts should be noted by all data users. First, the "R" qualifier means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. Results qualified with an "R" should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Thirteen water samples (listed below) were collected at the Baldwin Park site on September 23, 1996 and shipped to Quanterra Environmental Services. These samples were analyzed for volatile organic compounds using SW-846 Method 8260.

BP-GW-MW51801-092396

BP-GW-MW51802-092396

BP-GW-MW51803-092396

BP-GW-MW51501-092396

BP-GW-MW51502-092396

BP-GW-MW51502N-092396 (EQUIPMENT RINSATE BLANK)

BP-GW-MW51503-092396

BP-GW-MW51503K-092396 (DUPLICATE SAMPLE)

BP-GW-MW50501-092396

BP-GW-MW50502-092396

BP-GW-MW50502K-092396 (EQUIPMENT RINSATE BLANK)

BP-GW-MW50503-092396

BP-GW-MW50504-092396

#### DATA ASSESSMENT

## I. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may be biased low, therefore, the positive results of a sample whose holding time has been exceeded may be qualified as estimated, "J". The results of the analytes not detected in the sample may be qualified as estimated, "J", or unusable, "R" (if the holding time is grossly exceeded).

The samples were analyzed within prescribed holding times.

# II. GC/MS INSTRUMENT PERFORMANCE CHECK

The BFB performance results were reviewed and found to be within the specified criteria.

#### III. CALIBRATION

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

The response factor measures the instrument's response to specific chemical compounds. The response factor must be  $\geq 0.05$  in both the initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). If the mean response factor (RRF) of the initial calibration or the continuing calibration is < 0.05 for any analyte, those analytes detected in the associated samples may be qualified as estimated, "J". The results for all analytes that were not detected may be rejected, "R".

Percent relative standard deviation (RSD) is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent difference (%D) compares the response factor of the continuing calibration check to the RRF from the initial calibration. %D is a measure of the instrument's daily performance. %RSD must be <30% and %D must be <25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results for samples associated with an %RSD or %D that were above the acceptable limits may be qualified as estimated, "J" and the results for the analytes not detected may be qualified as non-detects with estimated detection limits, "UJ". Non-detects may be used without any qualification if the %RSD is >30 based on professional judgement. If %RSD and %D grossly exceed QC criteria, non-detect data may be qualified as unusable, "R".

#### IIIA. INITIAL CALIBRATION

All RFs were ≥0.05 and all %RSDs were <30% except the following:

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DATE	CRITERIA OUTSIDE OF LIMITS	COMPOUND	VALUE OF CRITERIA	SAMPLE (S) AFFECTED
9/20/96	RF RFave	Acetone	0.04672 0.04557 0.04362	All Samples
9/20/96	RF RFave	4-Methyl-2-pentanone	0.03868 0.04791 0.04805 0.03830 0.03700 0.03336	All Samples
9/20/96	RF RFave	2-Chloroethylvinyl ether	0.00098 0.01258 0.04330	All Samples
9/20/96	RF RFave	2-Butanone	0.03408 0.03766	All Samples

Due to the initial calibration verification, the positive results for acetone, 4-methyl-2-pentanone, 2-chloroethylvinyl ether, and 2-butanone were qualified as estimated (J) and the non-detect results for acetone, 4-methyl-2-pentanone, 2-chloroethylvinyl ether, and 2-butanone were qualified as unusable (R) for all samples.

# IIIB. CONTINUING CALIBRATION

All listed RFs were ≥0.05 and all %Ds were <25% except the following:

DATE	CRITERIA OUTSIDE OF LIMITS	COMPOUND	VALUE OF CRITERIA	Sample (8) Apprected
10/3/96	<b>%</b> D	2-chloroethylvinyl ether	36.25	BP-GW-MW51501-092396
10/4/96	<b>%</b> D	Acetone	71.73	All Samples except BP-GW-MW51501-092396
10/4/96	RF RFave	4-Methyl-2-pentanone	0.03326 0.02995	All Samples except BP-GW-MW51501-092396
10/4/96	<b>%</b> D	1,2-Dibromo-3- chloropropane	36.29	All Samples except BP-GW-MW51501-092396
10/4/96	<b>%</b> D	2-Chloroethylvinyl ether	79.04	All Samples except BP-GW-MW51501-092396
10/4/96	<b>%</b> D	Chloromethane	31.16	All Samples except BP-GW-MW51501-092396
10/4/96	<b>%</b> D	Bromomethane	33.98	All Samples except BP-GW-MW51501-092396
10/4/96	%D	Trichloroethene	25.45	All Samples except BP-GW-MW51501-092396
10/4/96	%D	Dibromochloromethane	25.86	All Samples except BP-GW-MW51501-092396

The 2-chloroethylvinyl ether result in sample BP-GW-MW51501-092396 was non-detect and, therefore no action was taken due to the CCV on 10/3/96. Due to the 10/4/96

CCV, the positive results for acetone, 4-methyl-2-pentanone, 1,2-dibromo-3-chloropropane, 2-chloroethylvinyl ether, chloromethane, bromomethane, trichloroethene, and dibromochloromethane were qualified as estimated (J) and the non-detect results for acetone were qualified as non-detect with estimated detection limits (UJ) for all samples except BP-GW-MW51501-092396.

#### IV. BLANK CONTAMINATION

Quality assurance (QA)/QC blank samples, i.e., method, trip, field, or equipment rinsate blanks, are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and equipment rinsate blanks measure cross-contamination of samples during field procedures. If the concentration of an analyte detected in a sample is less than 5 times the concentration detected in a blank sample (10 times for the common contaminants), the sample result may be qualified as non-detect, "U".

#### IVA. METHOD BLANKS

No analytes were detected in any of the method blanks.

#### IVB. TRIP BLANKS

A trip blank was not analyzed with this sample group.

# IVC. FIELD BLANKS

A field blank was not analyzed with this sample group.

# IVD. EQUIPMENT RINSATE BLANKS

The following analytes were detected in the equipment rinsate blank, BP-GW-MW51502N-092396:

Water	Trichloroethene	0.63	3.15	All non-blank samples
Water	Methylene Chloride	1.3	13	All non-blank samples
MATRIX	СОМЪОДИД	CONCENTRATION (µg/L)	ACTION LEVEL (µg/L)	Sample (5) Approved

Due to the equipment rinsate blank contamination, the methylene chloride and/or trichloroethene results for all the samples less than the above action levels were qualified as non-detects, "U".

# V. SURROGATES/SYSTEM MONITORING COMPOUNDS

All samples are spiked with surrogate/system monitoring compounds (SMC) compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured percent recovery (%R) of a surrogate/SMC is outside criteria, the results of that sample may be qualified as estimated, "J" or non-detects with estimated detection limits, "UJ".

All %Rs were within the acceptable control limits.

# VI. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

MS/matrix spike duplicate (MSD) data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD results may be used in conjunction with other QC criteria for some additional qualification of data.

All %Rs and RPDs were within the acceptable ranges.

#### VII. LABORATORY CONTOL SAMPLES

Laboratory control sample (LCS) data are generated to determine the long-term precision and accuracy of the analytical method. The LCS results may be used for some qualification of data.

All %Rs and RPDs were within the acceptable ranges.

# VIII. REGIONAL QUALITY ASSURANCE AND QUALITY CONTROL

Samples BP-GW-MW51503K-092396 and BP-GW-MW50502K-092396 were collected as duplicate samples of BP-GW-MW51503-092396 and BP-GW-MW50502-092396, respectively. The RPDs for all results detected in both the sample and its duplicate above the reported limit were below 30% except the following:

DUPLICATE	COMPOUND	CONCENTRATION (µg/L)	Sample (S) Appected
BP-GW-MW51503K-092396	1,1-Dichloroethene	45	All Samples
BP-GW-MW51503K-092396	Trichloroethene	31	All Samples
BP-GW-MW51503K-092396	Tetrachloroethene	36	All Samples

Due to the field blank analysis, all positive results for 1,1-dichloroethene, trichloroethene, and tetrachloroethene were qualified as estimated (J) for all samples.

#### IX. INTERNAL STANDARDS

Internal standard (IS) performance criteria ensure that the GC sensitivity and response are stable during every experimental run. The IS area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the IS must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to -100%) range of the associated standard, all of the positive results for compounds quantitated using that IS may be qualified as estimated, "J", and all non-detects may be qualified as non-detects with estimated detection limits, "UJ". Non-detects may be qualified as unusable, "R", if there is a severe loss of sensitivity (< 25% of associated IS area counts).

All IS data met acceptable criteria.

## X. COMPOUND IDENTIFICATION

Target compound list (TCL) compounds are identified on the GC by using the analyte's relative retention time (RRT). For the results to be a positively

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identified, the sample peak must be within  $\pm$  0.06 RRT units of the standard compound. If the RRT value is not within the acceptable range, the associated results may be qualified as non-detects, "U".

All compounds were identified correctly.

XI. COMPOUND QUANTITATION AND REPORTED CONTRACT-REQUIRED QUANTITATION LIMITS

All criteria were met.

XII. TENTATIVELY IDENTIFIED COMPOUNDS

Not applicable.

# XIII. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The system performance was acceptable. A summary of the overall assessment of the data is provided on the following page.

# ORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE Baldwin Park OU LAN			Environ, S	ervices
SDG NO. <u>121485</u> DAT	IA USER _	CDM		
REVIEW COMPLETION DATE 11/19	9/96			
NO. OF SAMPLES 8 WATER	SOIL	OT	HER N/A	
REVIEWER [ ] ESD [ ] ESAT [ ]	OTHER,	CONTRACT/C	ONTRACTOR	
	VOA	BNA	PEST	OTHER
1. HOLDING TIMES 2. GC/MS INSTRUMENT PERF.				
3A. INITIAL CALIBRATIONS	X			
3B. CONTINUING CALIBRATIONS	<u>X</u>			
4. BLANKS 5. SURROGATES	X			
6. MS/MSD	0			
7. LCS/LCSD	0			
8. REGIONAL QC	X		****	•
9. INTERNAL STANDARDS		·		
10. COMPOUND IDENTIFICATION 12. COMPOUND QUANTITATION	<u> </u>	<del></del>		· · · · · · · · · · · · · · · · · · ·
13. SYSTEM PERFORMANCE				
14. OVERALL ASSESSMENT				

O = No problems or minor problems that do not affect data usability.

X = No more than about 5% of the data points are qualified as either estimated or unusable.

NA = Not applicable.

DATA VALIDATION FOR: Metals using SW-846 Methods 6010/7000

Series

PROJECT CONTACT: Suzanne Rowe

SITE: Baldwin Park Operable Unit Pre-Remedial

Design Groundwater Monitoring Program

**SDG NO:** 121485

CONTRACT LAB: Quanterra Environmental Services, Santa

Anna, California

REVIEWER: Krista Lippoldt, CDM Federal

DATE REVIEW COMPLETED: November 19, 1996

MATRIX: Water

Data validation was performed following the guidelines in Test Methods for Evaluating Solid Waste Physical/Chemical Methods, SW-846, 3rd Edition (SW-846) dated January 1990 with current revisions and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, November 1988 with current revisions. All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detect), "UJ" (non-detect with an estimated detection limit), or "R" (unusable). The data assessment is discussed in detail on the attached sheets.

Eight water samples (listed below) were collected at the Baldwin Park site on September 23, 1996 and shipped to Quanterra Environmental Services. These samples were analyzed for metals using SW-846 Methods 6010/7000 Series. The metals and associated methods are aluminum, barium, cadmium, chromium, copper, iron, manganese, nickel, zinc, calcium, magnesium, potassium, and sodium by SW-846 Method 6010; arsenic by SW-846 Method 7060; lead by SW-846 Method 7421; and mercury by SW-846 Method 7470.

BP-GW-MW51801-092396

BP-GW-MW51802-092396

BP-GW-MW51803-092396

BP-GW-MW51501-092396

BP-GW-MW51502-092396

BP-GW-MW51502N-092396 (EQUIP)

(EQUIPMENT RINSATE BLANK)

BP-GW-MW51503-092396

BP-GW-MW51503K-092396 (DUPLICATE SAMPLE)

## I. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may be biased low, therefore, the positive results of a sample whose holding time has been exceeded may be qualified as estimated, "J". The results of the analytes not detected in the sample may be qualified as estimated, "J", or unusable, "R" (if the holding times are grossly exceeded).

The samples were analyzed within prescribed holding times.

#### II. CALIBRATION

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

An initial calibration verification (ICV) is required once per 24 hours and a continuing calibration verification (CCV) is required at a frequency of 10 percent (%) or every two hours during an analytical run, whichever is more frequent. The % recovery (R) of all analytes except mercury and cyanide must be between 90-110%. The %R of mercury must be between 80-120% and cyanide between 85-115%. If the %R is outside of the acceptable range, the result of that analyte in the associated sample(s) may be qualified as estimated, ""J", non-detect with an estimated detection limit, "UJ", or unusable, "R".

# IIA. INITIAL CALIBRATION

An ICV was analyzed once per 24 hours. All %Rs of the elements that the samples were analyzed for were within the acceptable limits.

# IIB. CONTINUING CALIBRATION

A CCV was analyzed per the appropriate frequency. All %Rs of the elements that the samples were analyzed for were within the acceptable range.

#### III. BLANK CONTAMINATION

Quality assurance (QA)/QC blank samples, i.e., preparation, initial calibration, continuing calibration, field, or equipment rinsate blanks, are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Preparation blanks (PBs), initial calibration blanks (ICBs), and continuing calibration blanks (CCBs) measure laboratory contamination. Field and equipment rinsate blanks measure cross-contamination of samples during field operations. If the concentration of an analyte detected in a sample is less than 5 times the concentration detected in a blank sample, the sample result may be qualified as non-detect, "U".

IIIA. PREPARATION, INITIAL CALIBRATION, AND CONTINUING CALIBRATION BLANKS

No analytes were detected in the PB, ICB, or CCB above the reported detection limits.

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## IIIB. FIELD BLANKS

A field blank was not analyzed for metals.

## IIIC. EQUIPMENT RINSATE BLANKS

No analytes were detected in the equipment rinsate blank.

#### IV. INTERFERENCE CHECK SAMPLE

The interference check sample (ICS) verifies the laboratory's interelement and background correction factors. The %Rs for the inductively coupled plasma (ICP) analysis of the ICS AB solution must lie between 80-120%. If the %Rs are not within acceptable limits and the concentration of either aluminum, calcium, iron, or magnesium in a sample are comparable to or greater than (>) their respective levels in the ICS, the associated results may be qualified.

All %Rs were within 80-120%.

#### V. LABORATORY CONTOL SAMPLES

The laboratory control sample (LCS) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. All aqueous LCS %Rs must be within 80-120%, except for antimony and silver which have no fixed control limits. If the %Rs do not fall within the acceptable limits, sample results may be qualified.

All %Rs were within the acceptable ranges.

# VI. DUPLICATE SAMPLE ANALYSIS

Laboratory duplicate sample determinations are used to demonstrate acceptable method precision by the laboratory at the time of analysis. Laboratory duplicate analyses are also performed to generate data in order to determine the long-term precision of the analytical method on various matrices. If the RPDs of the laboratory duplicate analyses are not within  $\pm$  20% (35% for soils) for results  $\geq$  5 times the contract-required detection limit (5xCRDL) or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

A laboratory duplicate was not analyzed.

## VII. SPIKE SAMPLE ANALYSIS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. If the %Rs of the pre-digestion spiked sample (matrix spike [MS]) do not fall between 75-125%, the associated sample results may be qualified and a post-digestion spiked sample (PDS) is required for all analytes. The acceptable control limits for the PDS %Rs are also 75-125%, but the data from the PDS is not used to qualify data.

All %Rs of the MS and MSDs met the criteria.

#### VIII. GRAPHITE FURNACE ATOMIC ABSORPTIION QUALITY CONTROL

The raw data were not provided and, therefore, was not assessed.

#### IX. ICP SERIAL DILUTION

The serial dilution of samples quantitated by ICP determines whether or not significant physical or chemical interferences exist due to sample matrix. If the analyte concentration is > 50x the instrument detection limit (IDL), then the 5-fold dilution result must agree within a 10% difference (D). If this control limit is exceeded, the associated results may be qualified.

All %Ds were within the acceptable control limits.

## X. FIELD DUPLICATES

Field duplicate samples may be collected and analyzed as an indication of overall precision. These analyses measure both field and laboratory precision; therefore, the results may have more variability than laboratory duplicates which measure only laboratory performance. If the RPDs of the field duplicate analyses are not within  $\pm$  30% (50% for soils) for results  $\geq$  5xCRDL or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

The RPDs for the field duplicate and the original sample were all below 30%.

## XI. OVERALL ASSESSMENT

A summary of the overall assessment of the data is provided on the next page.

# INORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE <u>Baldwin Park OU</u>	LABORATORY <u>Ouanterra Env. Services</u>
SDG NO. <u>121485</u>	DATA USER <u>CDM</u>
REVIEW COMPLETION DATE _11/20	/96
NO. OF SAMPLES 8 WATER	SOIL OTHER N/A
REVIEWER [ ] ESD [ ] ESAT [ ]	OTHER, CONTRACT/CONTRACTOR
	METALS WET CHEMISTRY
1. HOLDING TIMES 2A. INITIAL CALIBRATIONS 2B. CONTINUING CALIBRATIONS 3A. LAB BLANKS 3B. FIELD BLANKS 3C. RINSATE BLANKS 4. INTERFERENCE CHECK SAMPLE 5. LCS 6. LAB DUPLICATE 7. SPIKE SAMPLES 8. GFAA QC 9. ICP SERIAL DILUTION	O O O O O O O O O O O O O O O O O O O
10. FIELD DUPLICATES 11. OVERALL ASSESSMENT	

O = No problems or minor problems that do not affect data usability.

X = No more than about 5% of the data points are qualified as either estimated or unusable.

DATA VALIDATION FOR: Wet Chemistry using EPA Methods 100/300

Series

PROJECT CONTACT: Suzanne Rowe

SITE: Baldwin Park Operable Unit Pre-Remedial

Design Groundwater Monitoring Program

**SDG NO:** 121485

CONTRACT LAB: Quanterra Environmental Services, Santa

Ana, California

REVIEWER: Krista Lippoldt, CDM Federal

DATE REVIEW COMPLETED: November 20, 1996

MATRIX: Water

Data validation was performed following the guidelines in Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1983 with current revisions and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, November 1988 with current revisions. All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detect), "UJ" (non-detect with an estimated detection limit), or "R" (unusable). The data assessment is discussed in detail on the attached sheets.

Thirteen water samples (listed below) were collected at the Baldwin Park site on September 23, 1996 and shipped to Quanterra Environmental Services. These samples were analyzed for wet chemistry parameters using EPA Methods 100/300 Series. The wet chemistry parameters and methods include alkalinity by EPA Method 310.1; total dissolved solids (TDS) by EPA Method 160.1; total suspended solids (TSS) by EPA Method 160.2; hardness by EPA Method 130.2; and chloride, sulfate, nitrate, and nitrite by Method 300.0.

BP-GW-MW51801-092396

BP-GW-MW51802-092396

BP-GW-MW51803-092396

BP-GW-MW51501-092396

BP-GW-MW51502-092396

BP-GW-MW51502N-092396 (EQUIPMENT RINSATE BLANK)

BP-GW-MW51503-092396

BP-GW-MW51503K-092396 (DUPLICATE SAMPLE)

BP-GW-MW50501-092396

BP-GW-MW50502-092396

BP-GW-MW50502K-092396 (EQUIPMENT RINSATE BLANK)

BP-GW-MW50503-092396

BP-GW-MW50504-092396

# DATA ASSESSMENT

#### I. HOLDING TIME

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may be biased low, therefore, the positive results of a sample whose holding time has been exceeded may be qualified as estimated, "J". The results of the analytes not detected in the sample may be qualified as estimated, "J", or unusable, "R" (if the holding times are grossly exceeded).

The samples were analyzed within prescribed holding times.

#### II. CALIBRATION

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

For EPA Method 300.0, the instrument must be calibrated daily using a minimum of a blank and three standards. An initial calibration verification (ICV) is required immediately after daily calibration and a continuing calibration verification (CCV) is required at a frequency of 10 percent (%) and at the end of the an analytical run, whichever is more frequent. The ICV response or retention time of each analyte must agree with the expected value by ± 10 percent. The % R of the CCV must be within 90 to 100 percent. If the response is outside of the acceptable range, the result of that analyte in the associated sample(s) may be qualified as estimated, ""J", non-detect with an estimated detection limit, "UJ", or unusable, "R".

# IIA. INITIAL CALIBRATION

An initial calibration was performed with a blank and three standards. All ICV responses met the acceptable criteria.

# IIB. CONTINUING CALIBRATION

CCVs were analyzed at the appropriate frequency and in the correct analytical sequence. All CCV RS met the acceptable criteria.

## III. BLANK CONTAMINATION

Quality assurance (QA)/QC blank samples, i.e., method, field, or equipment rinsate blanks, are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Field and equipment rinsate blanks measure cross-contamination of samples during field procedures. If the concentration of an analyte detected in a sample is less than 5 times the concentration detected in a blank sample, the sample result may be qualified as non-detect, "U".

#### IIIA. METHOD AND CALIBRATION BLANKS

A method blank was analyzed for all parameters. There were no analytes detected in any of the method blanks.

## IIIB. FIELD BLANKS

A field blank was not analyzed for wet chemistry parameters.

# IIIC. EQUIPMENT RINSATE BLANKS

No analytes were detected in the equipment rinsate blank.

# IV. LABORATORY CONTOL SAMPLES

The laboratory control sample (LCS) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. For EPA Method 300, all aqueous LCS %Rs must be within 90-110% and all RPDs must be less than 20%. For all other wet chemistry methods, the %Rs must be within 80-120% and all RPDs must be less than 20%. If the %Rs or RPDs do not fall within the acceptable limits, sample results may be qualified.

An LCS and LCSD were analyzed for TDS, TSS, alkalinity, and hardness and an LCS was analyzed for nitrate, nitrite, chloride, and sulfate. All %Rs and RPDs were within the acceptable limits.

## V. DUPLICATE SAMPLE ANALYSIS

Laboratory duplicate sample determinations are used to demonstrate acceptable method precision by the laboratory at the time of analysis. Laboratory duplicate analyses are also performed to gernerate data in order to determine the long-term precision of the analytical method on various matrices. If the RPDs of the laboratory duplicate analyses are not within  $\pm$  20% (35% for soils) for results  $\geq$  5 times the contract-required detection limit (5xCRDL) or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

A laboratory duplicate was analyzed for TDS, TSS, alkalinity, and hardness. All RPDs met acceptable criteria.

# VI. SPIKE SAMPLE ANALYSIS

The spiked sample analysis is designed to provide information about the effect of each sample matrix on the sample preparation procedures and the measurement methodology. If the %Rs of the spiked sample (matrix spike [MS]) do not fall between 80-120% or the RPDs of the duplicate results do not fall between ± 20%, the associated sample results may be qualified.

An MS and MSD were analyzed for chloride, sulfate, nitrate, and nitrite. All %Rs and RPDS were within the acceptable control limits.

# VII. FIELD DUPLICATES

Field duplicate samples may be collected and analyzed as an indication of overal precision. These analyses measure both field and laboratory precision; therefore, the results may have more variability than laboratory duplicates which measure only laboratory performance. If the RPDs of the field duplicate analyses

are not within  $\pm$  30% (50% for soils) for results  $\geq$  5xCRDL or  $\pm$  1xCRDL (2xCRDL for soils) for results < 5xCRDL, the associated results may be qualified.

The RPDs for the field duplicate and original sample were within acceptable control limits

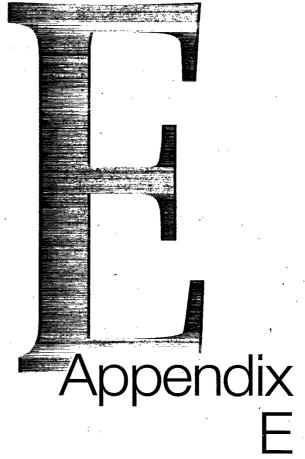
# VIII. OVERALL ASSESSMENT

A summary of the overall assessment of the data is provided at the end on the next page.

# INORGANIC REGIONAL DATA ASSESSMENT SUMMARY

CASE Baldwin Park OU	LABORATORY Ouanterra Env. Services
SDG NO. <u>121485</u>	DATA USER <u>CDM</u>
REVIEW COMPLETION DATE _11/20	/96
NO. OF SAMPLES 13 WATER	SOIL OTHER N/A
REVIEWER [ ] ESD [ ] ESAT [ ]	OTHER, CONTRACT/CONTRACTOR
	METALS WET CHEMISTRY
1. HOLDING TIMES 2A. INITIAL CALIBRATIONS 2B. CONTINUING CALIBRATIONS 3A. LAB BLANKS 3B. FIELD BLANKS 3C. RINSATE BLANKS 4. INTERFERENCE CHECK SAMPLE 5. LCS 6. LAB DUPLICATE 7. SPIKE SAMPLES 8. GFAA QC 9. ICP SERIAL DILUITION 10. FIELD DUPLICATES 11. OVERALL ASSESSMENT	O O O O O O O O O O O O O O O O O O O
O = No problems or minor problems usability.	lems that do not affect data
<pre>X = No more than about 5% of either estimated or unusable.</pre>	the data points are qualified as

NA = Not applicable.



Appendix E Aquifer Test Data

# UNSCANNABLE MEDIA

See Document # 29693
for scanned image(s) of the media document(s) label(s).

To use the unscannable media document(s), contact the Superfund Records Center.